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West Florida Shelf Environment for the Area Characterization Test I (ACT I)

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During 18 through 27 September 1992, a carefully controlled acoustic exercise, Area Characterization Test I (ACT I) was conducted in the shallow-water West Florida Shelf area known as Florida Middle Ground under the auspices of the Undersea Warfare Office of the Advanced Research Projects Agency. The goal is to develop an acoustic detection capability in adverse ocean environments such as shallow-water areas of continental shelves. To accomplish this, environmental data, which includes bathymetry, sediment samples, temperature and salinity of the water column, ocean currents and meteorological conditions, are provided for the interpretation of acoustic measurements.

The test area is classified as a sandy-silt or sand-silt-clay bottom with low carbonate content. Core and seismic data from other work shows the subbottom to be unconsolidated, comprised of Pleistocene to Recent sediments approximately 129 m thick at array locations. Evaluation of seafloor properties suggest that the area is homogeneous, with a smooth water-sediment interface, and a high acoustic impedance. A geoacoustic model is derived from exercise measurements, Hamilton values, and archival seismic and core records. Potential for oceanographic variability is high due to wind induced circulation and interaction of shelf water with Loop Current water. While a typical summer mixed layer down to 30 m is evident in all profiles, a high temperature gradient at 150 m occurs near the array locations as part of a warm feature. Current data from meters placed on both vertical and horizontal line arrays at 79-m and 188-m water depths, respectively, appear to be dominated by the principal lunar and solar semidiurnal and diurnal components. Evidence of other flow mechanisms operating in the test area is found in the random appearance of the vertical array record and the presence of residual currents. Observed currents are most probably a composition of tidal, inertial, and geostrophic forcing. The warm feature is postulated as an intrusion of Loop Current water warmed by increased mixing due to internal waves or other turbulent processes. Sound speeds varied by as much as 10 m/s at 150-m-water depths as a result of the intrusion, yet profiles remained downward refracting. Average wind speeds during the test were 2 m/s with no indication from any of the platforms involved in ACT I of any significant variation from the generally calm weather at the array site. This report also provides a brief description of the environmental data collection methodology and a compendium of the collected data.

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CONTENTS

WEST FLORIDA SHELF ENVIRONMENT FOR THE AREA CHARACTERIZATION TEST I (ACT I)

1. INTRODUCTION

The Multistatic Active Sonar for Adverse Environments program is sponsored by the Undersea Warfare Office of the Advanced Research Projects Agency (formerly Defense Advanced Research Projects Agency). The goal of the program is to develop and demonstrate an acoustic detection capability in adverse ocean environments. One such adverse environment is where a high degree of bottom interaction exists such as shallow-water and littoral areas of continental shelves, as well as deep-water downward-refracting areas. In order to accomplish this goal, the characteristics of acoustic propagation and reverberation must be fully understood. To characterize these, a carefully controlled exercise, Area Characterization Test (ACT I) was conducted in the shallow-water West Florida Shelf area known as Florida Middle Ground during 18 through 27 September 1992.

In order to provide an unambiguous interpretation of the acoustic measurements, a robust suite of environmental measurements were made aboard the various platforms involved in this test. These measurements include bathymetry, sediment samples, temperature and salinity of the water column, current speed and direction at the acoustic array locations, and meteorological conditions. This memorandum report provides a brief description of the data collection methodology, the geologic, oceanographic and sound speed structure in the exercise area, and a compendium of the collected data.

2. ENVIRONMENTAL DATA COLLECTION

Geologic and bathymetric descriptions from literature and databases were supplemented with Shipek sediment sample collection, 3.5 kHz subbottom profile data and ship's fathometer output. Operation of the 3.5 kHz subbottom profiler required that the transducer be lowered below the ships hull, restricting its operation to slow ship speeds to minimize strain on the transducer. In view of this restriction and the virtual absence of subbottom penetration, only a limited amount of 3.5 kHz data were collected.

Conductivity-Temperature-Depth (CTD) and Expendable Bathythermograph (XBT) measurements were made to evaluate oceanographic variability. CTD data were taken with a Seabird CTD on R/V 1, the *Universal Surveyor*, and an Ocean Sensors model 100 probe on R/V 3, the *Seis Surveyor*. The Ocean Sensors device is preprogrammable for type of data desired (in raw counts or engineering units), sampling strategy (time series, vertical cast, sampling commencement triggered on depth, time, salinity, etc.), and data-collection frequency. Sensor outputs are stored in internal RAM and uploaded to a host computer (in this case, a Macintosh SE 30) upon retrieval. Prior to the exercise, the probe was updated and calibrated. The specifications of this unit are shown in Table 1.

XBT data were collected by all three vessels involved in the test using Sippican MK IX data acquisition systems provided by the Naval Research Laboratory and Sippican Model T-10, T-7, and T-5 probes (Table 2) Data were stored on Macintosh SE and SE-30 personal computers. Airborne XBT (AXBT) data were collected by the Applied Research Laboratory at the University of Texas onboard aircraft participating in the test.

Currents were measured with InterOcean S4 electromagnetic current meters placed on the horizontal and vertical line arrays (HLA and VLA). Specifications for these meters are provided in Table 3. The S4 meters were set to record 600 half-second vector averaged samples.

Wind speed and direction, air and sea-surface temperature, and barometric pressure data were collected by a moored Tropical Oceanographic Global Atmospheric (TOGA) buoy. Data collection locations are shown in figure 1. Plotted on the chart are the following: TOGA buoy location 28° 24.6' N, 085° 16.8' W, seven sediment grab sample locations, nine CTD cast locations, and all XBT and AXBT deployment locations. Processed data associated with these locations are presented in the appendices.

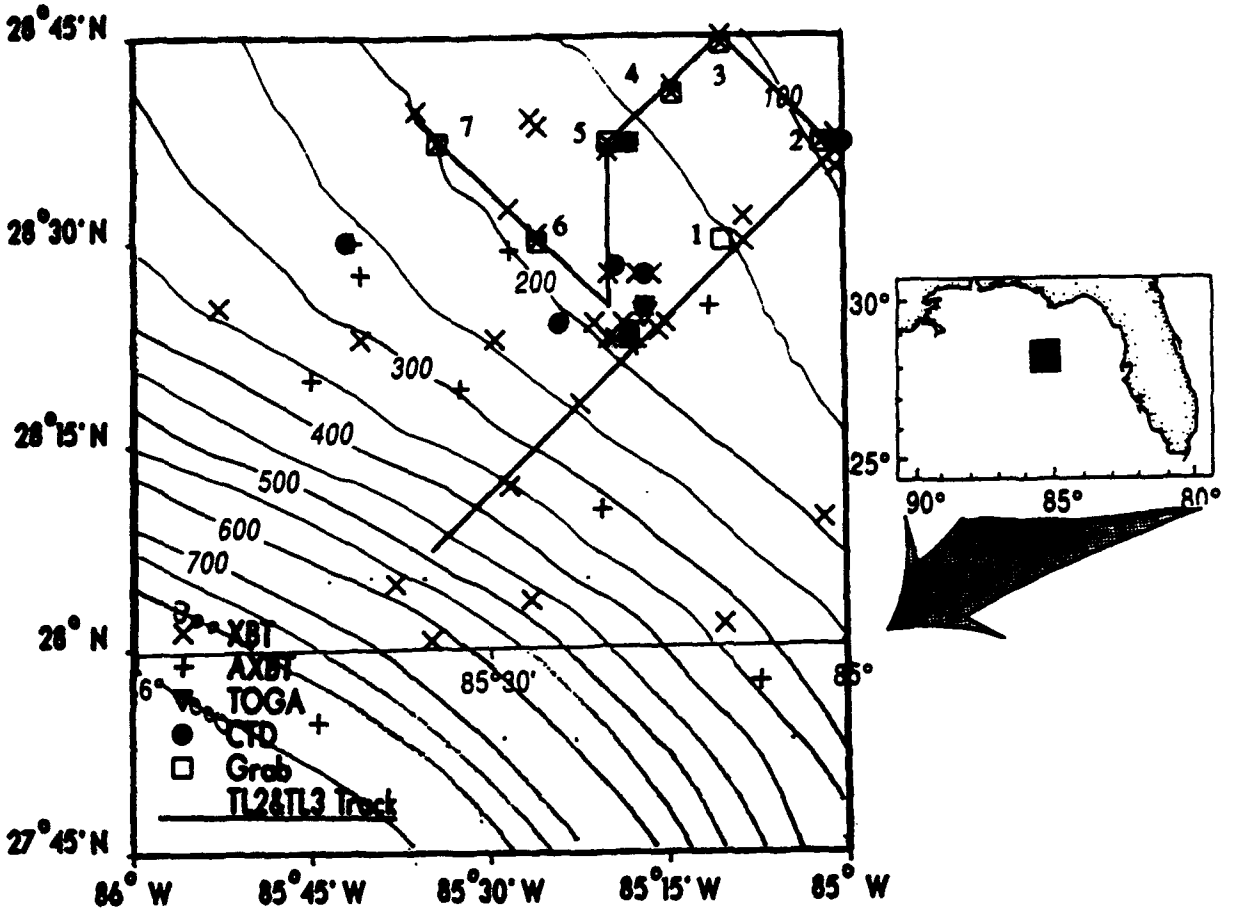

Figure 1. ACT I test and data locations. Depths are in meters.

Table 1. Ocean Sensors CTD Specifications.

Conductivity
Measurement Range: 0.1 to 70 mS/cm Accuracy: ± 0.1 mS/cm
Temperature
Measurement Range: -2.0 to +30°C Accuracy: ± 0.01 °C
Depth
Measurement Range: 0 to 1000 m Accuracy: ±0.5 m
Salinity
Computed using Unesco 1978 equation Measurement Range: 0 to 40 psu Accuracy: ± 0.03 psu

Table 2. XBT Specifications

Depth Resolution: 60 cm
System Accuracy: 0.2°C
Resolution: 0.1°C
Range: -2.0°C - 38 °C

Table 3. S4 Current Meter Specifications

Speed	Range:0-350 cm/s
	Resolution: 0.2 cm/s
Direction	Range:0-360° Resolution:0.5°
Depth	Range:0-1000 dBar Resolution:0.1% fs
Memory:	64K bytes

3. GEOLOGIC CHARACTERIZATION

The test area is located in the Gulf of Mexico on the edge of the continental shelf (the northern end of what is known as the the West Florida Shelf). Water depths encountered by R/V 3 varied between 83 m and 480 m. Bathymetric data were corrected for ships draft (R/V 3 correction is 3 m) and by using corrections for sound speed by Gold and Audet (1973). These data are presented in Appendix A.

The seafloor in this region is gently dipping, relatively hard, and smooth. Bathymetry contours run approximately northwest-southeast, with shallow water to the northeast. The HLA and VLA are located at approximately the shelf edge with depths just shoal of 200 m. The majority of the acoustic repeater runs (R/V 3) were on the shelf in water depths of less than 200 m, but that part of transmission loss run TL3 to the southwest of the VLA position was over the upper continental slope in water depths close to 500 m. Figure 2 is a plot of bathymetry versus range in nautical miles from the HLA for transmission loss runs TL2 and TL3. The range was computed using plane trigonometry on the difference in latitude and longitude in minutes with an inverse cosine of the HLA latitude conversion applied to the difference in longitude to convert to nautical miles. Figure 2 illustrates the differences in bathymetry between the continental shelf to the northeast of the VLA position, and the continental slope to the southwest of the VLA position.

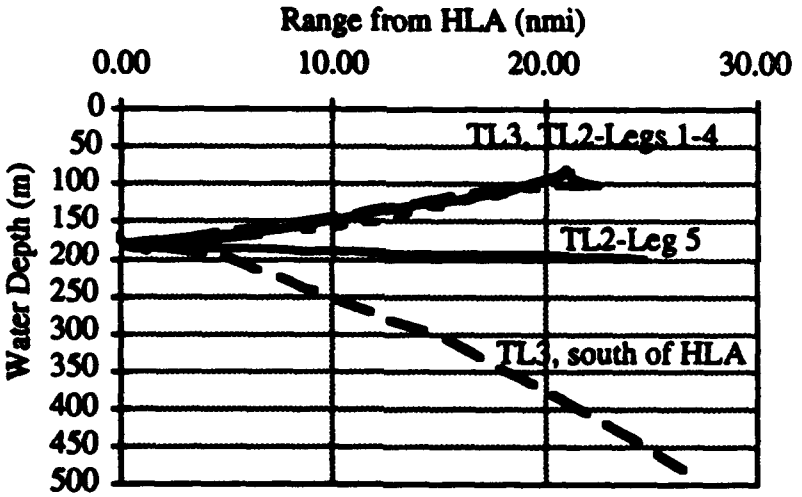

Figure 2. Bathymetric profiles for runs TL2, and TL3.

The two parameters most diagnostic in describing the surface sediments are texture and carbonate content. Sand-size particles dominate the area, with the 80 percent sand-size-fraction contour located out on the shelf edge. The shelf surface is dominated by shell hash predominantly derived from a Carolinian molluscan assemblage. Even many upper slope sediments of the region contain up to 50 percent sand almost entirely composed of the tests of planktonic foraminifera. Low carbonate content in the region corresponds to high quartz content, which bulges out onto the shelf south of Cape San Blas and into the ACT I test area. Although carbonate and quartz sands dominate the shelf, the detailed sediment distribution is patchy (Doyle and Sparks 1980). All seven sediment grab samples appeared as a greenish-gray sandy-silt material and based on sediment grain-size analysis are classified as a sandy-silt or sand-silt-clay. Sample 2 (shallowest water depth, 90 m) contained a variety of shell and coral fragments that were not present in other samples and was 88 percent sand-size. While Doyle and Sparks show this sample location as the border between carbonate sands and a quartz-carbonate transition zone extending to the 100-m-depth contour, the grab samples collected on ACT I indicate that the quartz sand of the transition zone extends farther to the southwest to encompass the ACT I array site. Sediment size analysis results listed in Appendix B

show that the remaining samples are 30 to 40 percent sand size, 36 to 48 percent silt-size, and 16 to 23 percent clay size. Carbonate content of all samples was very low. The larger grain size seen in sample number 2 is consistent with expected progradation of relict quartz sediment, with coarser sediments in the shallower water, and increased silt and clay as water depth increases.

Numerous piston cores were collected at the locations given in figure 3 as reported by Doyle and Holmes (1985) with core 15 sampled to a depth of 8.57 m. They were all unconsolidated with microscopic examinations of the samples showing no evidence of cementation or obvious recrystallization. Core data from Mitchum (1978), also shown in figure 3, from core 33-48 located 80 nmi southeast of the arrays shows at least 45 m of well-sorted Pleistocene foraminiferal sand. Sedimentary structures in Pleistocene-Recent sediments include banding, burrowing, and bedding possibly related to turbidity currents. The banding is the dominant structure in the cores and is comprised of depositional banding of alternating light and dark layers varying in thickness from less than 13 mm to more than 75 mm. The differences are normally due to variation in sediment size and

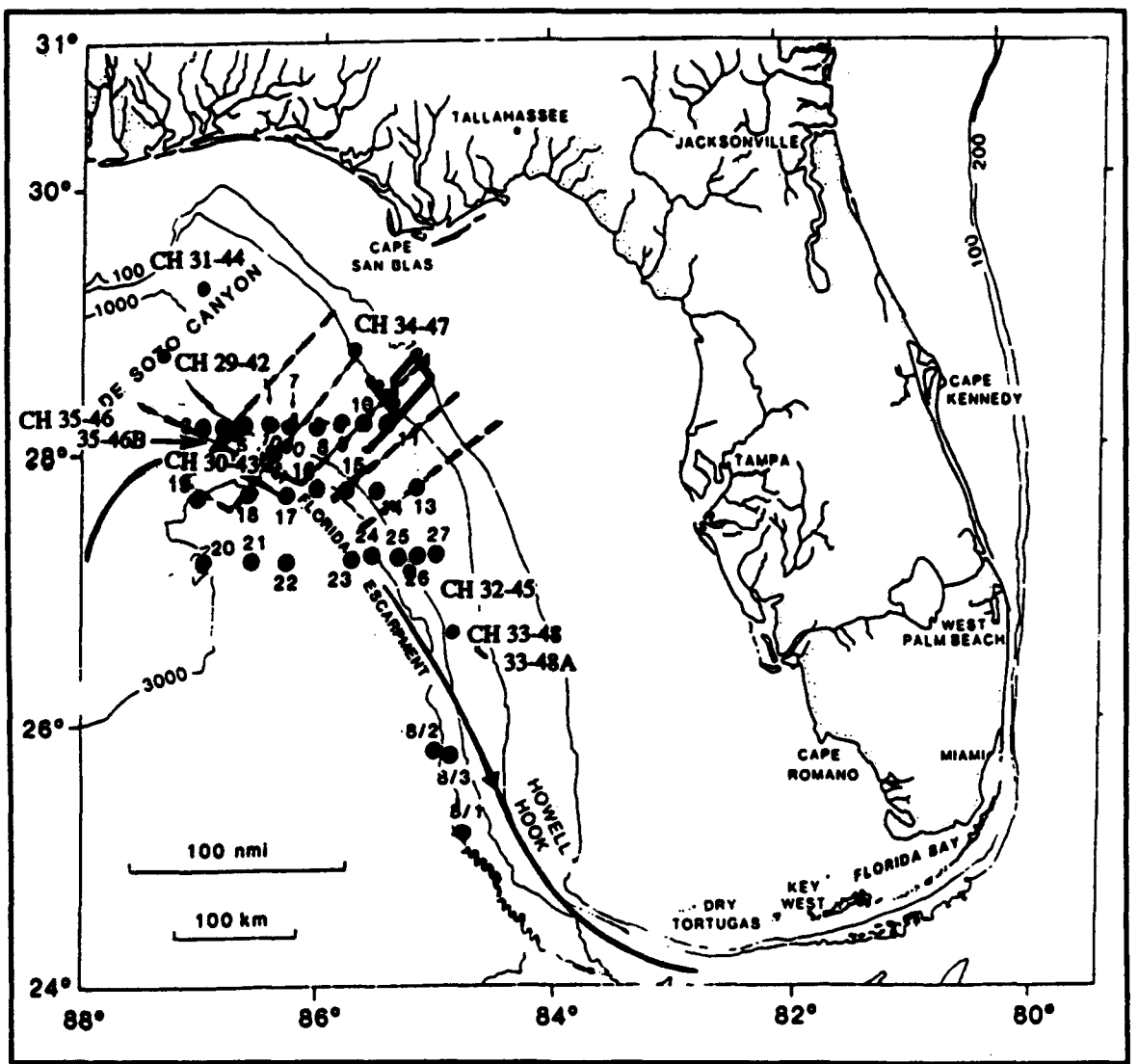

Figure 3. Core and seismic locations after Doyle and Holmes (1985) and Mitchum (1978) with deep cores prefixed "CH," dashed lines as seismic lines and ACT I TL track is solid line. Also shown is approximate Loop Current position by solid arrow curve.

clay content. Light layers tend to be firmer and more massive, contain a higher percentage of planktonic foraminifers, coarser matrix material, and lower clay content. Mitchum also describes 30- to 270-cm-thick Pleistocene sequences of bedded calcareous clays and argillaceous carbonate muds in cores 31-44, 29-42, and 35-46, all located to the northwest of the arrays but not in the cores closest (~30 nmi) to the test site.

Seismic records describe the subbottom as comprised of Pleistocene to Recent sediments approximately 75 to 150 m thick showing parallel bedding with minor downlap (Mitchum 1978). The thickness of the top seismic unit at the array location is given by Doyle and Holmes (1985) as 150 ms two-way travel time (approximately 129 m based on an average sound speed of 1724 m/s) and is comprised of Pleistocene-Holocene sediments. Because of the high reflection coefficient at the sediment-water interface, the resulting strong reflection destroyed any subbottom reflections to a depth of about 45 m in the Mitchum data set. While only a minimal amount of 3.5 kHz data was collected on ACT I, all data records show a similar sharp reflection from the water-sediment interface with virtually no subbottom penetration as seen in the 3.5 kHz sample record (50 ms two-way travel time top to bottom) of figure 4. Evaluation of seafloor properties suggest that the ACT I area is homogeneous with a smooth water-sediment interface and a high acoustic impedance. There is no evidence at this time for any significant subbottom high impedance reflectors in the top 10 m of sediment. The geoacoustic model in Table 4 is derived from exercise measured surface sediment samples shown in figure 5, (a Shepard diagram of plotted grain size with Hamilton (1980) values for individual sample classifications and weighted means above the diagram), and the archival seismic records and sediment cores discussed above. The one coarse size sample was not used in the weighted mean values because it would skew the mean. The location of this sample is at the northern extreme of the track and may only be representative of a small-scale shell patch.

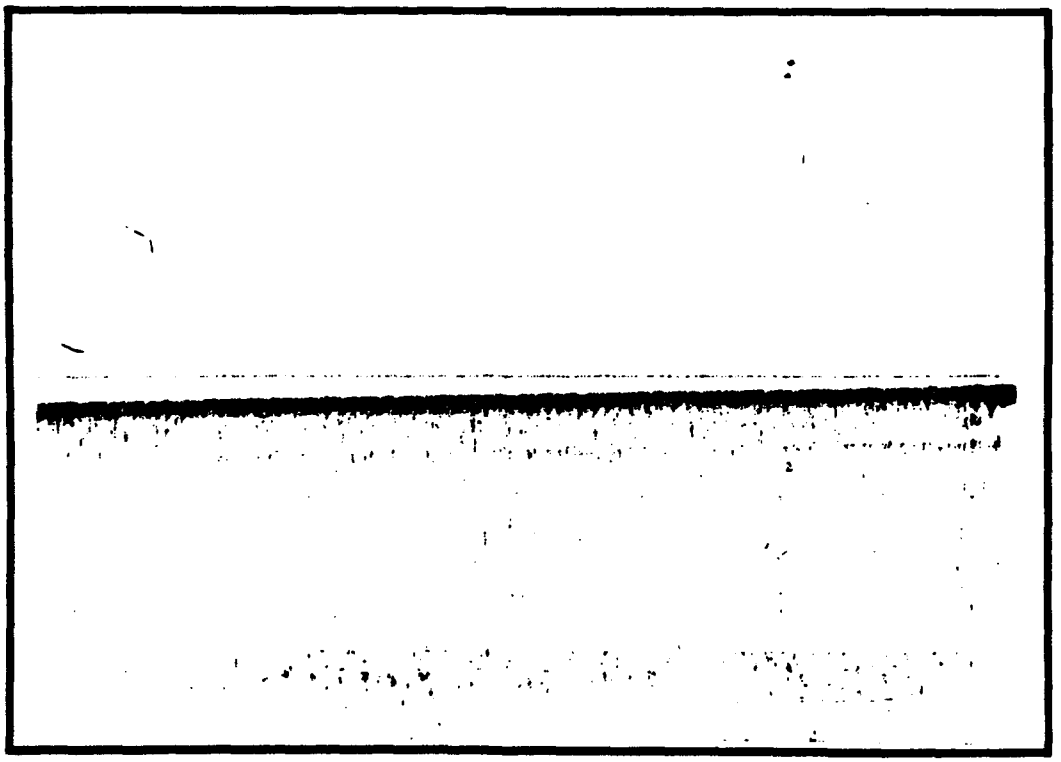

Figure 4. 3.5 kHz section illustrating bottom character.

Sediment size/composition	Velocity ratio	Density	Attenuation
Weighted Mean (0.0226 mm)	1.061	1.701	0.100
SAND	1.145	1.941	0.300
SAND-SILT-CLAY	1.033	1.596	0.100
SANDY SILT	1.080	1.771	0.100
SILTY SAND	1.078	1.772	0.100

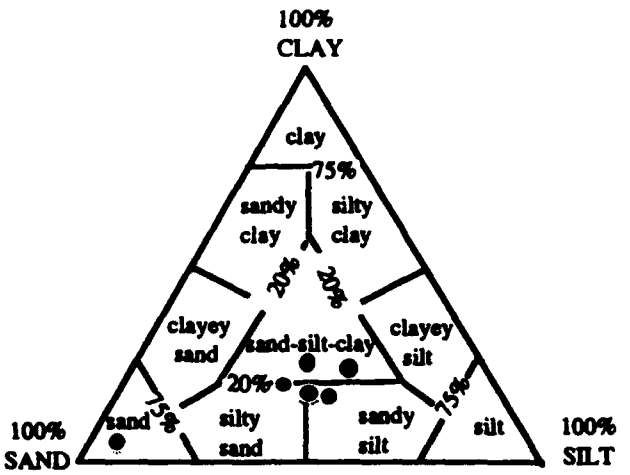

Figure 5. Shepard diagram with sediment samples plotted and geoacoustic parameters.

Table 4. Geoacoustic model for the ACT I exercise (Z(0)=Vw*1.061).

Depth below seafloor (m)	Sediment sound speed (m/s)	Sediment density (g/cc)	Sediment Attenuation Constant (dB/m* kHz)
0	Vw*1.061	1.701	0.100
5	Z(0) +10.	1.711	0.099
10	Z(0) +20.	1.721	0.099
15	Z(0) +30.	1.731	0.098
20	Z(0) +39.	1.741	0.097
30	Z(0) +59.	1.761	0.096
40	Z(0) +78.	1.781	0.094
50	Z(0) +97.	1.811	0.093
60	Z(0) +116.	1.831	0.092
80	Z(0) +154.	1.871	0.089
100	Z(0) +191.	1.911	0.086
120	Z(0) +227.	1.951	0.083
140	Z(0) +263.	1.991	0.080
160	Z(0) +298.	2.031	0.078
180	Z(0) +332.	2.071	0.075
200	Z(0) +366.	2.111	0.072

Sediment sound speed at the water-sediment interface (0.0-m depth) is determined by multiplying the applicable in situ bottom water sound speed (Vw) times the relative sediment sound speed (Vr=1.061). Sediment sound speed at the depths in column one of Table 4 are obtained by adding the listed constant to the zero depth (Z(0)=Vw*1.061) sound speed. Sound attenuation in decibels per meter, at a given frequency and depth, is equal to the attenuation constant for the applicable depth times the frequency in kilohertz.

4. WATER COLUMN CHARACTERIZATION

The oceanography of the West Florida Shelf area can be divided into two geographic regimes: the area along the continental slope and outer shelf and the basinal environment. In shelf/slope environments many of the currents and water-column characteristics can be attributed to wind-driven circulation where wind-stress mechanisms assume a major role in causing variability. Wind-stress-induced effects can result from both local forcing and remote forcing hundreds of miles away.

The basinal environment of the eastern Gulf of Mexico is primarily controlled by the Loop Current, which enters the Gulf of Mexico through the Yucatan Channel and extends northerly and easterly in a wide loop introducing high salinity water (greater than 36.3 ppt) before exiting the Gulf via the Florida Strait. Loop Current water, formed at the surface in the Caribbean Sea, sinks beneath and mixes with less dense Gulf waters as it is carried northwards forming the Caribbean Subtropical Underwater water mass with a distinctive salinity maximum at depths between 100 and 300 m (Fig. 6). The position of this current is highly variable, particularly in its northern extent, varying from the Straits of Florida to the mouth of the Mississippi River as seen in its mean position over a 1-year period (Fig. 7, Maul 1977). While usually channeled on the east by the edge of the West Florida Shelf, Loop Current waters often intrude onto the shelf.

The test area, located at the boundary of these two geographic regimes has a high potential for oceanographic variability due to wind-stress induced circulation and the interaction of shelf water with Loop Current water creating complex eddies and frontal systems. This interaction can also include barotrophic waves (long period waves due to differences in sea level resulting from water column density variations and subsequent sea-surface slopes) that propagate onto the shelf to depths as shallow as the 40-m isobath (NECE 1982), internal waves, and internal tides that can interact with the shelf to produce well-mixed subsurface layers.

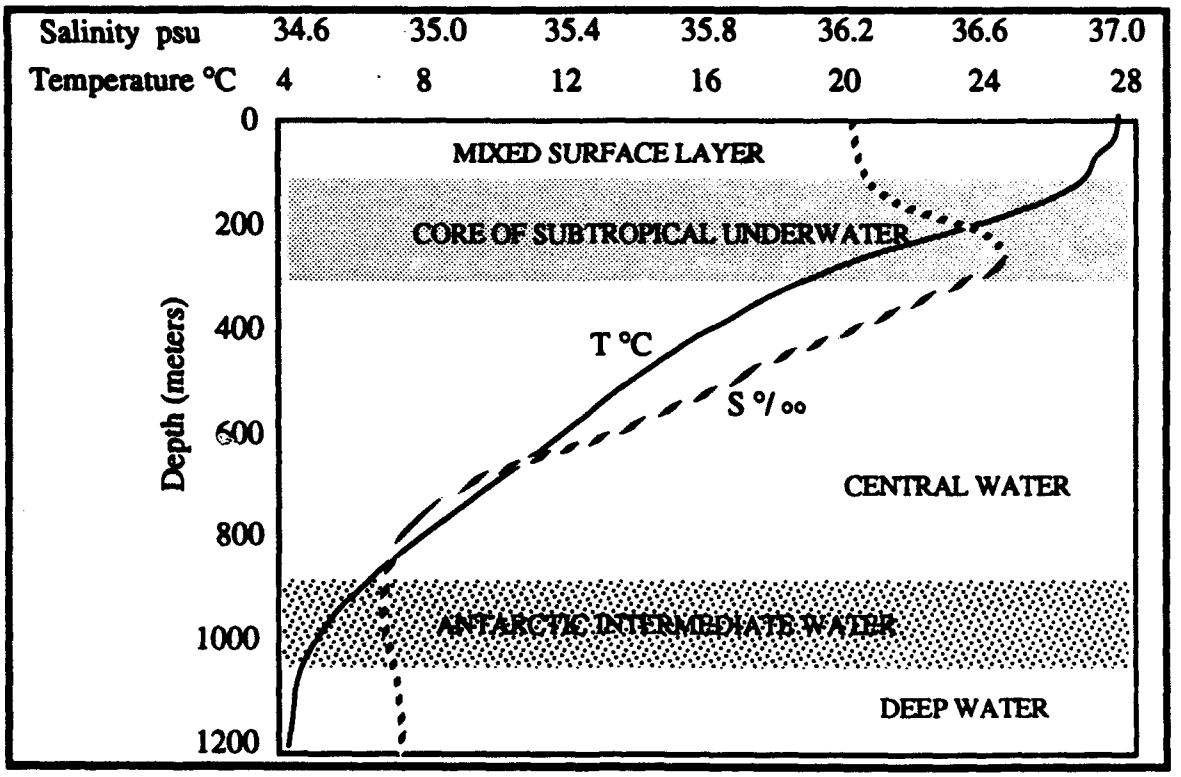

Figure 6. Characteristic water masses and temperature and salinity profiles for basinal Gulf of Mexico environment after Nowlin (1971).

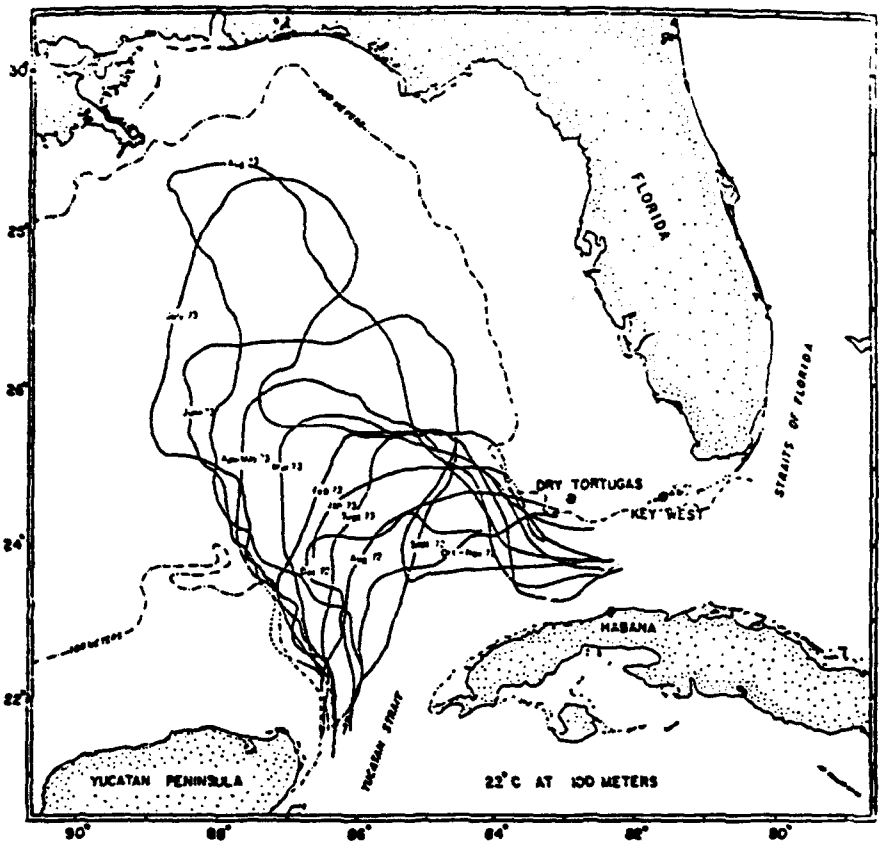

Figure 7. Pathlines of the 22°C isotherm at 100-m depths indicating Loop Current position from August 1972 through September 1973 (Maul 1977).

One week prior to exercise commencement, satellite imagery indicated that the Loop Current was at least 100 miles to the southwest of the test site (Fig. 3). Because of the potential for Loop Current or other dynamic process induced variability, all three vessels involved collected water temperature profiles. CTD and XBT profiles were edited for depth and obvious spikes. Many of the XBT surface temperatures indicate a response lag in the probe temperature sensor so corrections were applied based on sea-surface temperatures measured with a mercury thermometer at the time of each cast. A mixed layer down to 30 m is evident in all casts and is typical for summer profiles. While the standard deviation in temperature of all profiles is 0.3 to 0.6°C for most depths, it increases to 1°C at 150 m. This variability seen between 100 and 150 m (Fig. 8) is a result of warmer subsurface water present at locations in the northeastern section of the test area. The subsurface salinity maxima evident in CTD casts from R/V 1 and R/V 3 (Fig. 9) is characteristic of Loop Current derived Caribbean Subtropical Underwater.

Temperature profiles from all sources were gridded and contoured at 75 and 150 m as seen in figure 10. Contours at the extremes of this figure are generalizations and extrapolations due to lower data density, and are cut off at the general bathymetric depths in the northeast on the 150-m plot. The high temperatures seen in the northeast at 150 m in figure 10b are drawn from several XBT casts, as well as a CTD cast, and occur at the end of leg 3 of run TL2. They result from an apparent subsurface intrusion of Loop Current water onto the shelf that is not present at 75 m as shown by figure 10a.

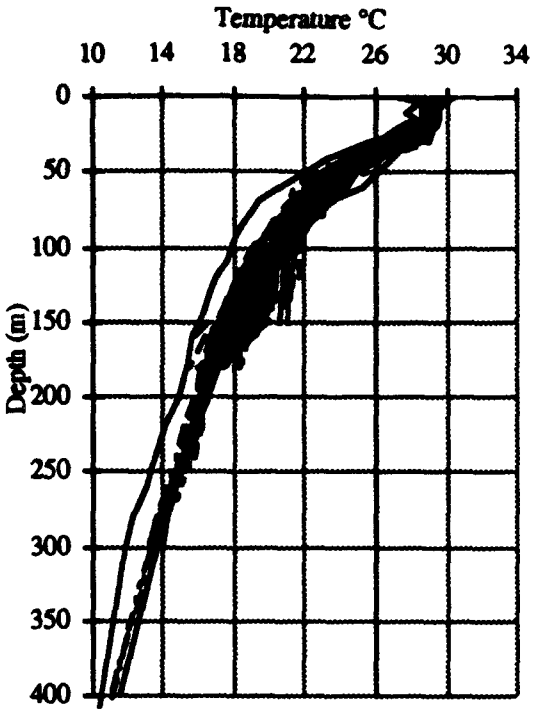

Figure 8. XBT and AXBT temperature profiles.

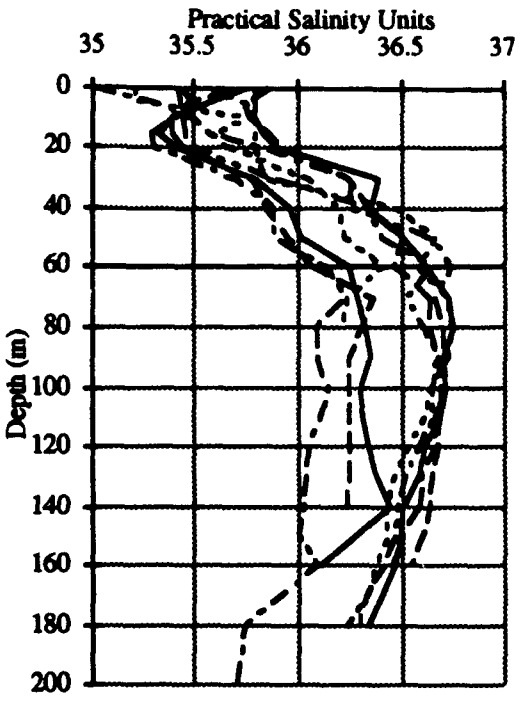

Figure 9. Salinity measured during ACT I Sea Test.

5. CURRENTS

Surface and near-surface currents in the test area were primarily wind-driven. Due to the absence of significant winds, near-surface currents based on empirical formulas and observed ship drift were low. For a 2 m/s wind speed, the wind-driven current is computed as 3.7 cm/s at the surface, falling to 0.2 cm/s at 20 m, which represents a good approximation of the mixed-layer depth. Typical tidal current maxima on the West Florida Shelf are 10 cm/s with no evidence of residual currents from tides, while eddies derived from the Loop Current are postulated to have speeds on the order of 60 cm/s (NECE 1982). Current data from meters placed on both the VLA and HLA are shown in figures 11 and 12, respectively and listed in Appendix C. The VLA current meter located at a 79-m water depth was well below the depth for 2 m/s wind-driven currents and yet shows a residual average speed of 8.6 cm/s to the northeast prior to 24 September, becoming more rotary in nature afterwards. Maximum observed speeds in excess of 20 cm/s are also higher than expected without the presence of a Loop Current eddy and the record of current magnitudes is more random in appearance when compared to the current meter record from the horizontal array. The HLA current meter, at 188 m, recorded currents with an average speed of 5.4 cm/s to the southeast and maxima near 10 cm/s. While these speeds are on the order of expected tidal speeds, the residual of 5.4 cm/s to the southeast is not expected and is most likely nontidal in nature.

The tide in this region is known to be mixed semidiurnal becoming diurnal towards Apalachicola in the north. Current meter records were spectrally analyzed, with the results plotted in figure 13. While there are no strongly defined peaks in this figure, the record from the VLA meter appears to be mixed with peaks at 21.3 and 10.7 h as well as a peak at 5.5 h evident in figure 13a. The near-bottom record from the HLA has peaks at 14.1 and 6.1 h but has significant energy at 21.25 and 10.6 h. With the inherent variability in current meter records, the relatively short record length, and the variations

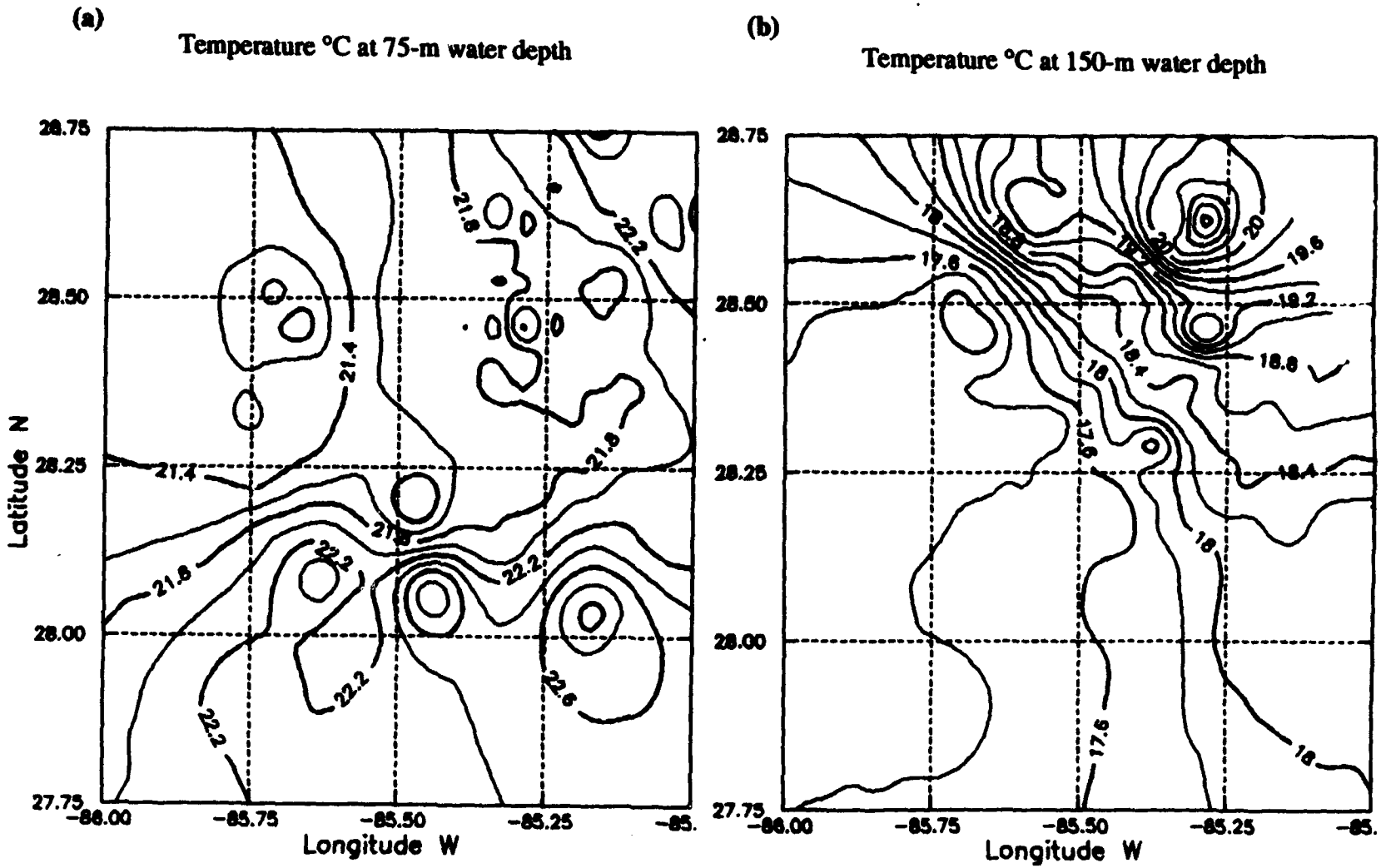

Figure 10. Temperature contours at (a) 75-m depth and (b) 150-m depth.

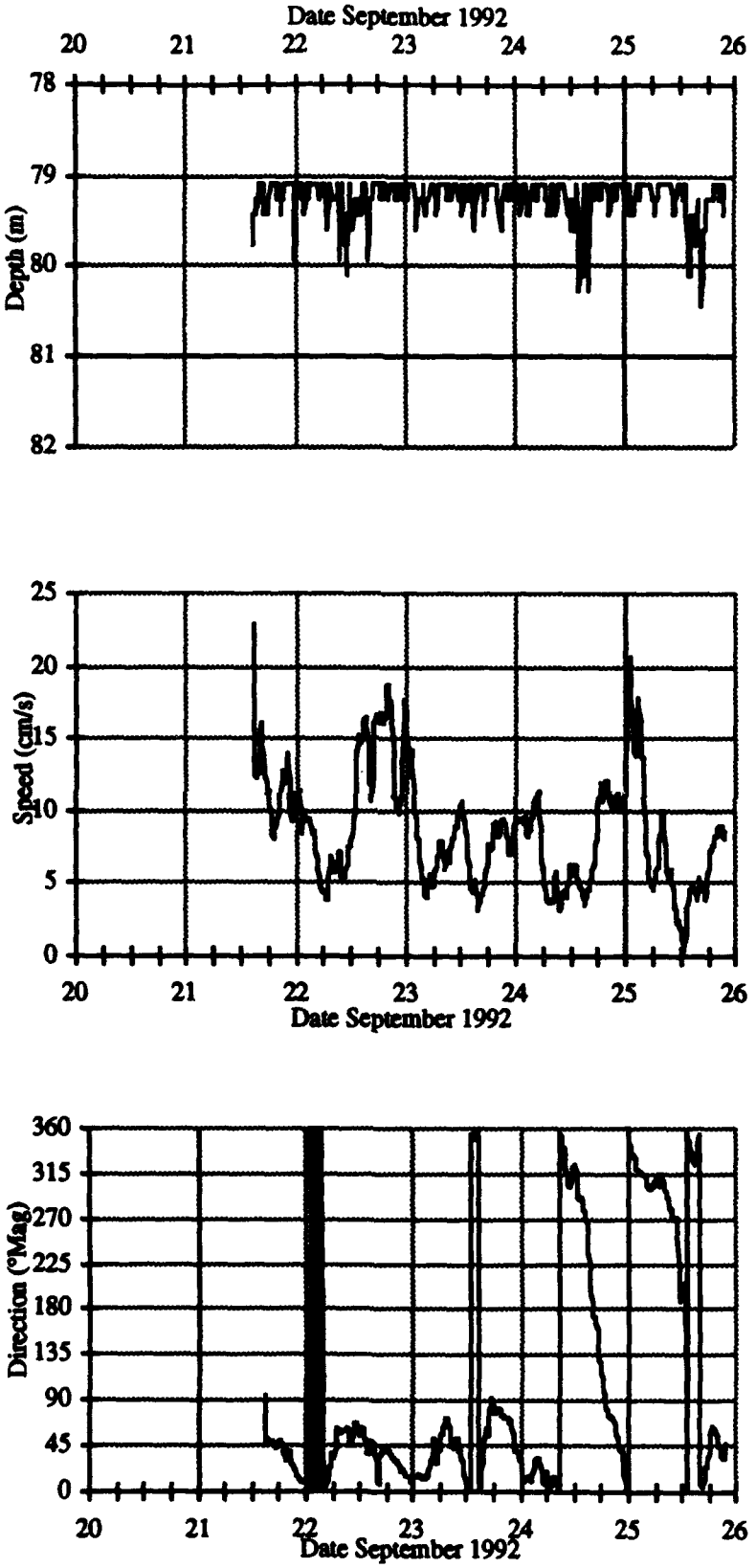

Figure 11. InterOcean S4 current meter data from the vertical array.

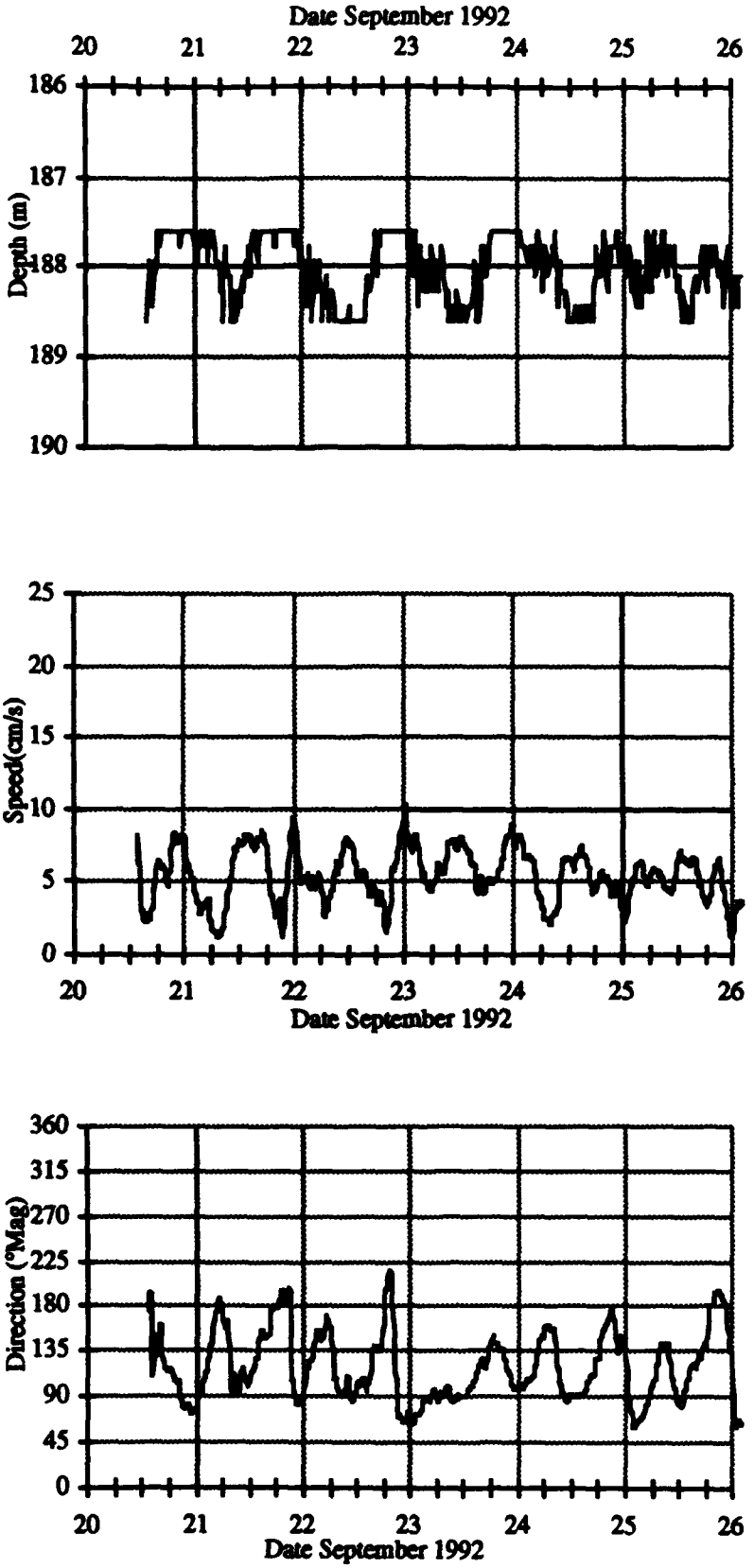

Figure 12. InterOcean S4 current meter data from the horizontal array.

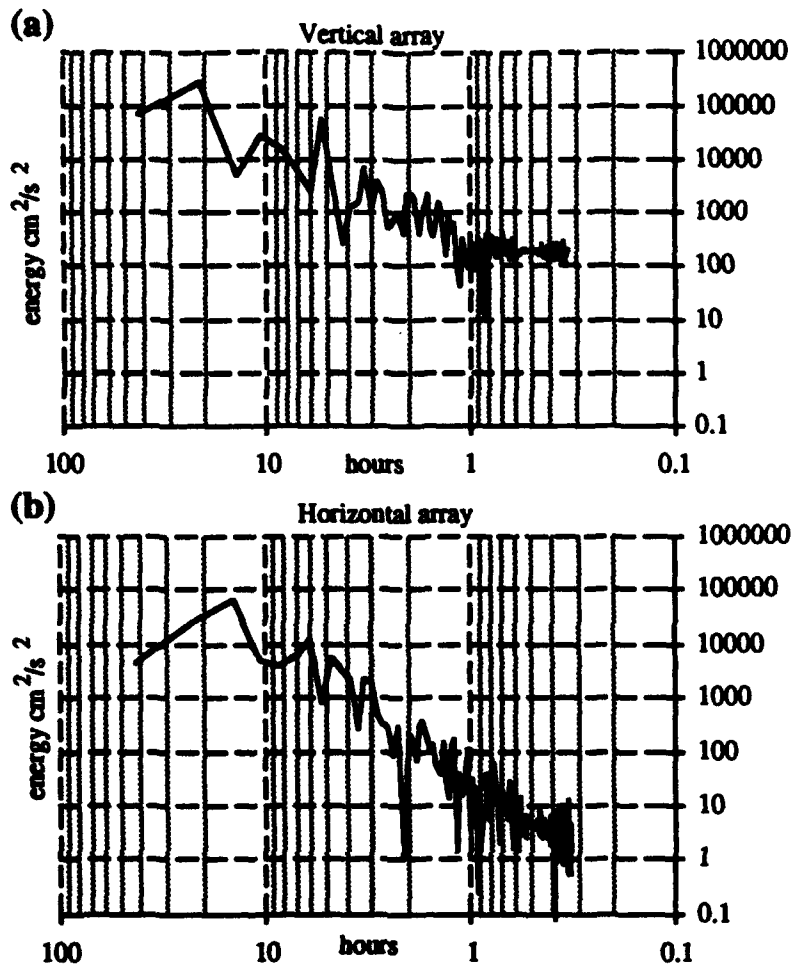

Figure 13. Energy spectra for current meters on (a) vertical array, (b) horizontal array.

in astronomical constituent tidal periods, these peaks are most likely to be the result of the principal lunar and solar semidiurnal and diurnal tide-producing force constituents or harmonics of these periods.

It is evident from variations in peak energy frequencies, from the random appearance of the vertical array record at 79 m and from the apparent residual current on both records that other current producing mechanisms are operating in the test area. Current speeds can be affected by other sources such as internal waves, internal tides, wind-driven components, and geostrophic circulations due to sloping isobaric surfaces. Their characteristics will therefore vary considerably over distances of hundreds or tens of meters horizontally and over depths of only a few meters (Pond and Pickard 1983). Both internal waves and tides can occur whenever there is a sharp pycnocline. Internal waves have been recorded with periods from a few seconds up to 12 h while internal tides have periods similar to the astronomical tides and could both influence the low-frequency currents. In addition, as these waves impinge upon the bottom in decreasing water depths like the northeastern part of the test area, they break and can result in a subsurface mixed layer similar to that seen in the warm subsurface feature discussed above.

Other flow variations often seen in current records are inertial motions that are orbital due to the Coriolis force and can reinforce tidal maxima and minima when the inertial period is close to the tidal period. They can be generated when a strong enough wind blows steadily in one direction to set the water in motion, which continues after the wind stops until slowed by friction. Because of the passage of Hurricane Andrew 1 week

prior to the test, the presence of an inertial current in the test area is possible, particularly at midcolumn water depths where wind stress or boundary-layer-bottom friction would be minimized. Assuming a 30 kt wind (15.4 m/s) was present in this area during the storms passage, a 6 cm/s current speed at 80-m water depth would have been generated. Inertial currents could also be a residual flow generated from a relaxation process, which occurs after storm induced sea-surface setup in the northern Gulf of Mexico. Because the inertial period for this latitude of 25.5 h is close to diurnal tidal periods, such a mechanism could account for the apparent stronger diurnal peak at 79 m and for the more random record and stronger maxima.

One other significant forcing mechanism to consider is that of geostrophic flow. This can be difficult to ascertain with this data set because of the other possible variability-driving mechanisms affecting the water column. Variations due to internal waves complicate the density-field measurement and are difficult to correct. Ideally, hydrographic stations should be sampled simultaneously over several periods o fluctuation. The geostrophic method of computing currents produces currents relative t an assumed level surface, which is arbitrarily selected based on minimum gradients o delta dynamic height. It also ignores friction, which is invalid near boundaries as is frequently the case in shallow water. Nonetheless, if we assume that the measured water column at stations across the warm feature gradient are average values and use the geostrophic method, we see that minimum gradients in the differences in dynamic heights occur at the surface and at 80 m. If we assume that 80 m is a level isobaric surface, then the geostrophic velocity at 140 m computes to 21 cm/s towards the east without friction. If we use the turbulent boundary layer theory order of magnitude friction velocity of 1/30 times the free velocity and assume that the 21 cm/s geostrophic velocity is the interior free velocity, then from the Law of the Wall, one estimates a reduction in velocity to approximately 10 cm/s at 1 m off the bottom for a smooth silt (0.03 mm diameter) bottom, which is close to the observed 5.4 cm/s residual current considering all the assumptions.

Most likely, the observed currents near the warm feature are a composition of tidal at all depths, inertial from either wind-driven or basin relaxation at midcolumn water depths and geostrophic in the lower part of the water column. This would account for the variability, the residual speeds, and the mean directional variation in the residuals. The warm feature is probably an intrusion of Loop Current water based on the lower salinity seen at depth in CTD 4 from R/V 3 (the lowest salinity curve of figure 9). This CTD was the only one located away from this feature indicating that areas farther away contain less Loop Current water. It is unlikely that internal wave and tide mixing would be so spatially restricted in an evenly sloped and horizontally homogeneous environment to produce one small mixed feature, but the higher density of a Loop Current water intrusion would strengthen the pycnocline in its vicinity, which could then support increased mixing due to internal waves or other turbulent process and result in the warmer temperatures measured.

6. SOUND SPEED CHARACTERIZATION

Temperature data from the 71 water column profiles were merged with the most temporally and spatially suitable CTD salinity values and entered into Wilson's (1960) sound speed equation to produce sound speed vs. depth profiles. The sound speed varied by as much as 10 m/s at depth between 125 and 150 m as seen in figure 14. The higher sound speeds shown at depths below 100 m resulted from temperature differences of 3°C, with the warmer water located at the northern end of the track as discussed in previous sections. While sound speed variations of this magnitude are usually significant, the fact that this variation is near bottom tends to mitigate the effects with the profile remaining downward refracting.

The sound speed profiles were entered into a cluster analysis routine developed by Audet and Vega (1974) to produce a representative model profile. The routine selects a

profile based on surface sound speed, layer depth, speed and gradient, below layer gradient, subsurface minimum and maximum, and critical depth if any. The profile selected is supplemented with mean values below its maximum depth and is presented in Table 5 along with the statistics of the ACT I sound speeds. This model or representative profile is plotted in figure 15 along with the mean values from Table 5.

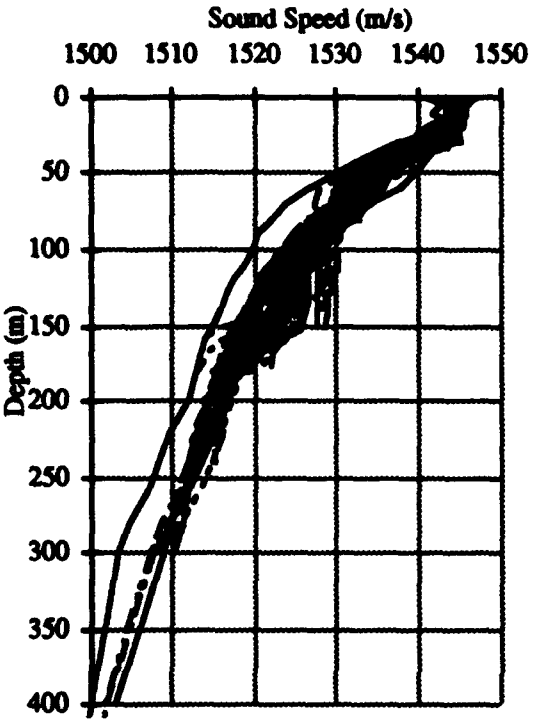

Figure 14. Sound speed profiles

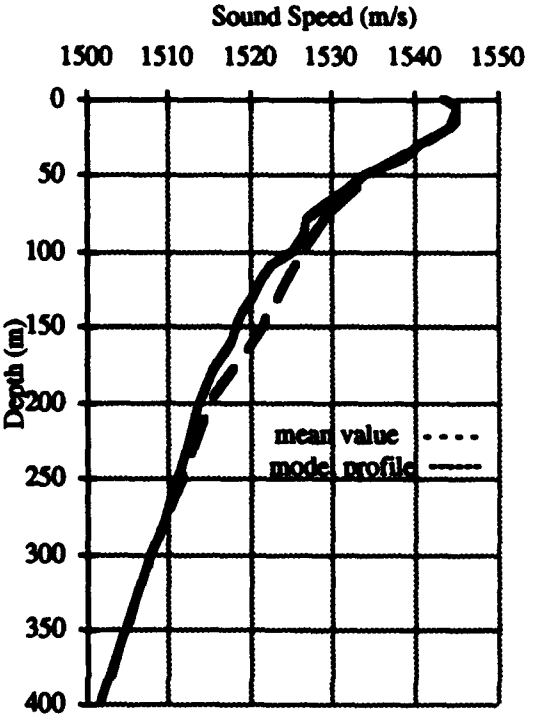

Figure 15. Model and mean profile

Table 5. Model representative profile and sound speed profile statistics.

depth (m)	model profile	sound speed summary (m/s) mean	minimum	maximum	standard deviation(m/s)	number of observations
0	1543.5	1543.9	1540.6	1547.4	1.4	71
10	1545.4	1544.8	1541.7	1545.9	0.0	71
20	1544.2	1544.4	1541.2	1545.6	0.0	71
30	1540.8	1541.1	1537.5	1545.2	1.7	71
50	1534.2	1534.7	1530.2	1539.5	1.4	70
75	1527.8	1529.7	1522.8	1532.9	1.2	69
100	1525.4	1526.4	1519.7	1530.3	1.8	64
125	1528.6	1521.0	1516.9	1529.4	2.6	60
150	1528.9	1518.4	1514.7	1528.9	3.1	55
200	1514.0	1515.3	1511.9	1517.0	1.3	17
250	1511.2	1511.8	1507.6	1514.0	1.4	10
300	1508.1	1508.1	1503.5	1510.1	1.6	10
400	1501.8	1501.8	1500.3	1503.2	1.0	4
500	1497.7	1497.7	1497.0	1498.4	0.7	2
600	1494.4	1494.4	1494.4	1494.4	0.0	1

7. METEOROLOGY

During ACT I, in situ wind speed and direction measurements were collected utilizing a meteorological buoy moored approximately 5 nmi from the VLA. Figure 16 are plots of the data collected by this buoy. There were no significant weather systems during the test as indicated by the constant barometric pressure and low wind speeds. While the possibility of high ambient noise levels due to surface shipping, petrochemical extraction, and biologics was reduced by the location of the test, noise could still be significant if it were introduced by local winds. Mitchell and Levinson (1990) reported a high correlation of wind speeds of 5 m/s or faster with near bottom noise time series for frequencies as low as 25 Hz at a deep-ocean site in the Pacific. Recent experiments on the West Florida Shelf showed very low ambient noise levels when winds were calm with apparent stripping of distant shipping noise. Average wind speeds during the ACT I test were below the 5 m/s limit of Mitchell and Levinson, with levels closer to 2 m/s, which should result in low noise levels. Past experience has shown that meteorological conditions can vary significantly over distances of much less than 100 nmi, which calls into question the use of single point meteorological data and land based or distant weather buoy data alone for the analysis of acoustic data. However, there was no indication from any of the platforms involved in ACT I of any significant variation from the generally calm weather at the array site. TOGA buoy data is provided in tabular form in Appendix E.

8. ACKNOWLEDGMENTS

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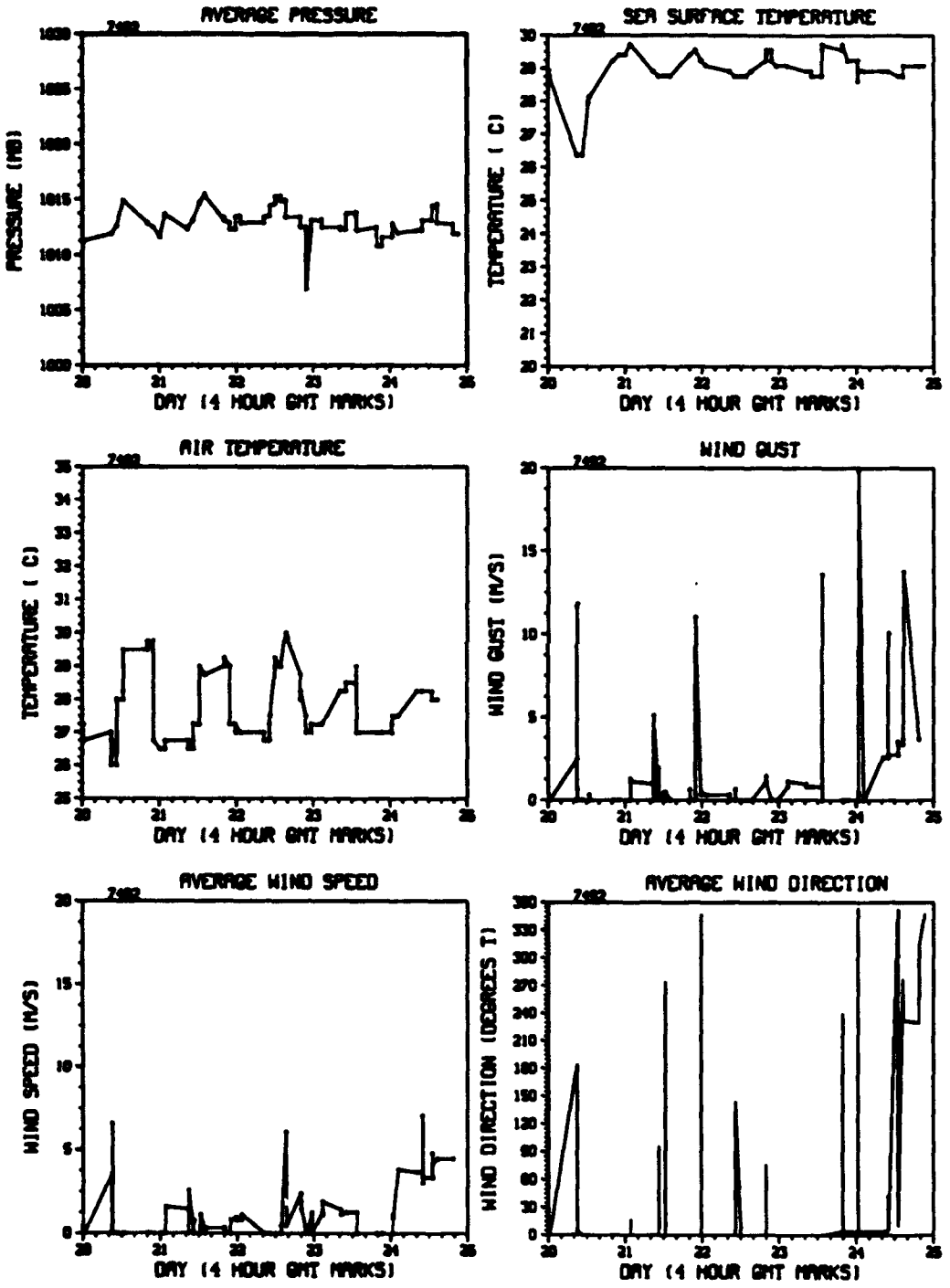

Figure 16. Meteorological TOGA buoy data.

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APPENDIX A: BATHYMETRY COLLECTED BY R/V 3

Depth corrected using Gold and Audet and +3 m for draft. Distance from HLA is plane sailing distance using plane trigonometry and inverse cosine of the HLA latitude as a conversion of difference in longitude in minutes to nautical miles. The negative value in longitude refers to west longitude to conform to U.S. Navy-standard terminology.

Latitude ° (N)	Longitude ° (W)	Dist. from HLA nmi	Dist. along track	DATE yr mo dy	TIME (Z) hours min	Corrected DEPTH (m)	Comments
28.3874511	-85.294621	0.37	0.00	920922	300	182.11	TL2 leg 1
28.403522	-85.277386	1.79	1.42	920922	310	178.06	
28.4193696	-85.259459	3.23	2.86	920922	320	173.00	
28.4347622	-85.241704	4.64	4.28	920922	330	169.97	
28.4515997	-85.222829	6.16	5.81	920922	340	165.92	
28.465079	-85.207547	7.39	7.04	920922	350	161.87	
28.4799415	-85.189911	8.78	8.44	920922	400	156.81	
28.4951989	-85.172904	10.15	9.83	920922	410	148.72	
28.5095932	-85.156067	11.49	11.18	920922	420	141.63	
28.5248974	-85.139219	12.86	12.56	920922	430	135.56	
28.53997	-85.122572	14.21	13.93	920922	440	128.48	
28.5546306	-85.105323	15.57	15.32	920922	450	124.43	
28.5695899	-85.088187	16.94	16.72	920922	500	117.34	
28.5851607	-85.070443	18.36	18.17	920922	510	109.25	
28.5926702	-85.061578	19.06	18.89	920922	515	104.18	
28.6397926	-85.055413	21.29	21.74	920922	545	85.78	end leg 1/begin leg 2
28.663583	-85.082631	21.29	2.26	920922	600	90.89	
28.6906847	-85.113128	21.59	4.82	920922	617	96.00	
28.7111184	-85.136311	21.98	6.77	920922	630	99.07	
28.7337604	-85.163229	22.56	9.01	920922	645	101.11	
28.7178272	-85.188459	21.15	10.95	920922	700	102.13	end leg 2/ begin leg 3
28.6931209	-85.216309	19.24	2.37	920922	715	105.20	
28.6677678	-85.244574	17.37	4.77	920922	730	116.33	
28.6436216	-85.272791	15.69	7.11	920922	745	126.45	
28.6194367	-85.299487	14.16	9.36	920922	800	134.55	
28.58574	-85.30005	12.13	11.38	920922	820	150.74	
28.562774	-85.300079	10.76	12.76	920922	830	156.81	
28.5273959	-85.299935	8.63	14.88	920922	845	162.88	end leg 3/begin leg 4
28.4929528	-85.29989	6.57	2.07	920922	900	168.96	
28.4475458	-85.300001	3.84	4.79	920922	920	176.04	
28.4244183	-85.299936	2.46	6.18	920922	930	180.09	
28.3905718	-85.299908	0.43	8.21	920922	945	182.11	
28.3567253	-85.29988	1.61	10.24	920922	1000	186.16	end leg 4/ begin leg 5

APPENDIX A cont.: BATHYMETRY COLLECTED BY R/V 3

Latitude ° (N)	Longitude ° (W)	Dist. from HLA nmi	Dist. along track	DATE yr mo dy	TIME (Z) hours min	Corrected DEPTH (m)	Comments
28.3567253	-85.29988	1.61	0.00	920922	1000	186.16	begin leg 5
28.455536	-85.380964	6.56	7.68	920922	1030	188.18	
28.4790626	-85.407543	8.69	9.83	920922	1045	190.21	
28.5025958	-85.434384	10.84	12.00	920922	1100	192.23	
28.5277591	-85.462501	13.11	14.29	920922	1116	194.26	
28.5508256	-85.488758	15.22	16.43	920922	1131	193.24	
28.58616	-85.518347	17.96	19.24	920922	1145	194.26	
28.602865	-85.537637	19.50	20.82	920922	1200	196.28	
28.6214594	-85.569214	21.66	23.11	920922	1216	198.30	
28.6439508	-85.594623	23.71	25.22	920922	1230	199.32	
28.6597617	-85.602181	24.68	26.28	920922	1235	200.33	end of TL2
28.6162213	-85.038256	21.05	0.00	920924	750	82.72	comex TL3
28.6115107	-85.042828	20.66	0.41	920924	800	92.94	
28.5816629	-85.074998	18.02	3.12	920924	815	106.21	
28.5571918	-85.102083	15.82	5.37	920924	830	118.36	
28.5332691	-85.129995	13.61	7.63	920924	845	126.45	
28.5090379	-85.157505	11.40	9.88	920924	900	137.58	
28.484225	-85.185141	9.17	12.14	920924	915	147.70	
28.459974	-85.212737	6.95	14.37	920924	930	160.86	no digital rec.
28.4352612	-85.240556	4.71	16.63	920924	945	165.92	no digital rec.
28.4108618	-85.268514	2.48	18.87	920924	1000	176.04	no digital rec.
28.3620259	-85.32438	1.99	23.35	920924	1030	186.16	no digital rec.
28.3361296	-85.353839	4.35	25.70	920924	1046	196.28	no digital rec.
28.313612	-85.379668	6.41	27.76	920924	1100	216.46	no digital rec.
28.2890073	-85.40722	8.64	29.98	920924	1115	241.61	no digital rec.
28.2143637	-85.490841	15.38	36.70	920924	1200	307.00	no digital rec.
28.1898825	-85.519073	17.63	38.95	920924	1215	342.00	no digital rec.
28.1653305	-85.546778	19.86	41.17	920924	1230	372.00	no digital rec.
28.1162287	-85.602593	24.34	45.65	920924	1300	441.90	no digital rec.
28.0905138	-85.630929	26.64	47.96	920924	1316	481.78	no digital rec.
28.3837475	-85.488408	11.41	0.00	920925	1235	169.97	begin 3B
28.383678	-85.488455	11.42	0.01	920925	1245	174.02	
28.3835694	-85.488558	11.42	0.01	920925	1300	175.03	
28.3833977	-85.488524	11.42	0.02	920925	1315	176.04	
28.3834821	-85.488056	11.39	0.05	920925	1330	178.06	
28.3835653	-85.487921	11.39	0.06	920925	1345	179.08	
28.3840164	-85.489966	11.51	0.19	920925	1400	184.14	
28.3824879	-85.483424	11.11	0.59	920925	1415	187.17	
28.3831658	-85.488989	11.45	0.93	920925	1430	188.18	
28.3834946	-85.493957	11.75	1.23	920925	1445	191.22	
28.3829876	-85.486254	11.28	1.70	920925	1452		end 3B

APPENDIX B: GRAB SAMPLE SEDIMENT SIZE ANALYSIS

Diameter (mm)	Weight percent of sediment in each size class for sample at location given					
	Sample 1 28.5013 N 85.1696 W	Sample 2 28.6204 N 85.0328 W	Sample 3 28.7375 N 85.1666 W	Sample 4 28.6783 N 85.2376 W	Sample 5 28.6196 N 85.3342 W	Sample 6 28.6204 N 85.5700 W
>16.0	.000	.000	.000	.000	.000	.000
16.0-8.0	.000	.000	.000	.000	.000	.000
8.0-4.0	.000	.000	.000	.000	.000	.386
4.0-2.0	.000	.1.239	.491	1.040	.382	.210
2.0-1.0	.490	3.431	1.786	.629	.347	.456
1.0-0.5	.735	5.210	1.339	1.845	.660	.736
0.5-0.25	2.145	15.470	1.518	4.780	2.362	1.648
.25-.125	8.150	48.920	6.384	12.075	13.164	9.677
.125-.063	18.689	15.121	26.027	20.797	27.475	24.579
.063-.031	9.988	2.319	14.554	10.314	8.961	9.677
.031-.016	19.730	2.541	18.482	17.862	13.581	15.919
.016-.008	13.480	1.239	9.420	9.686	9.344	8.871
.008-.004	4.718	.794	3.705	3.606	3.821	4.137
.004-.002	2.635	.318	2.189	1.635	2.327	2.349
.002-.001	2.757	.349	2.232	2.264	2.397	2.560
<.001	16.483	3.050	11.875	13.459	15.179	18.794
Gravel(>2.0 mm)	.000	1.239	.491	1.048	.382	.596
Sand(2.0-.063 mm)	30.208	88.151	37.054	40.126	44.008	37.097
Silt(.063-.004 mm)	47.917	6.893	46.161	41.468	35.707	38.604
Clay (<.004 mm)	21.875	3.717	16.295	17.358	19.903	23.703
	Sample statistical parameters					
Mean (mm)	.017	.150	.026	.027	.024	.019
Mean (phi)	5.873	2.739	5.290	5.206	5.385	5.730
Stnd Dev. (phi)	2.696	1.980	2.635	2.831	2.802	2.904
Skewness	.211	.979	.259	.239	.318	.205
Kurtosis	-.713	6.060	.012	-.342	-.592	-.719

APPENDIX C: CURRENT METER DATA FROM HORIZONTAL ARRAY

Serial number: 04590859
Sampling interval (s): 300 Step Inc: 2 Run Inc: 6
Date of data block: 09/20/92
Time of data block: 05:00

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.dayimal day
0.9	19.90	103.3	27300	9/20/92	12	35	20.5243056
24.2	41.58	214.9	27900	9/20/92	12	45	20.53125
67.9	67.48	232.3	28500	9/20/92	12	55	20.5381944
118.2	77.62	234.7	29100	9/20/92	13	5	20.5451389
157.5	50.97	229.7	29700	9/20/92	13	15	20.5520833
176.4	19.32	220.7	30300	9/20/92	13	25	20.5590278
188.6	6.27	175.4	30900	9/20/92	13	35	20.5659722
188.4	8.13	192.6	31500	9/20/92	13	45	20.5729167
188.1	8.27	190.9	32100	9/20/92	13	55	20.5798611
187.9	5.48	154.1	32700	9/20/92	14	5	20.5868056
187.9	3.37	111.6	33300	9/20/92	14	15	20.59375
188.3	3.27	126.6	33900	9/20/92	14	25	20.6006944
188.4	3.07	143.8	34500	9/20/92	14	35	20.6076389
188.4	2.93	150.5	35100	9/20/92	14	45	20.6145833
188.1	2.68	147.4	35700	9/20/92	14	55	20.6215278
187.9	2.35	139.0	36300	9/20/92	15	5	20.6284722
188.1	2.23	130.7	36900	9/20/92	15	15	20.6354167
188.1	2.47	131.1	37500	9/20/92	15	25	20.6423611
187.9	2.80	140.2	38100	9/20/92	15	35	20.6493056
187.6	2.73	149.9	38700	9/20/92	15	45	20.65625
187.6	2.53	160.6	39300	9/20/92	15	55	20.6631944
187.6	2.30	162.0	39900	9/20/92	16	5	20.6701389
187.8	2.35	155.2	40500	9/20/92	16	15	20.6770833
187.8	2.40	140.5	41100	9/20/92	16	25	20.6840278
187.8	2.63	130.9	41700	9/20/92	16	35	20.6909722
187.6	2.92	122.9	42300	9/20/92	16	45	20.6979167
187.6	3.25	121.2	42900	9/20/92	16	55	20.7048611
187.6	3.67	118.6	43500	9/20/92	17	5	20.7118056
187.6	4.38	116.9	44100	9/20/92	17	15	20.71875
187.6	5.18	115.7	44700	9/20/92	17	25	20.7256944
187.6	5.65	116.1	45300	9/20/92	17	35	20.7326389
187.6	5.82	115.6	45900	9/20/92	17	45	20.7395833
187.6	5.87	115.4	46500	9/20/92	17	55	20.7465278
187.6	6.18	116.4	47100	9/20/92	18	5	20.7534722
187.6	6.42	117.0	47700	9/20/92	18	15	20.7604167
187.6	6.45	116.5	48300	9/20/92	18	25	20.7673611
187.6	6.23	114.5	48900	9/20/92	18	35	20.7743056
187.6	5.97	111.8	49500	9/20/92	18	45	20.78125
187.6	5.97	108.5	50100	9/20/92	18	55	20.7881944
187.6	6.03	105.6	50700	9/20/92	19	5	20.7951389
187.6	6.15	104.7	51300	9/20/92	19	15	20.8020833
187.6	6.07	104.5	51900	9/20/92	19	25	20.8090278
187.6	5.87	105.0	52500	9/20/92	19	35	20.8159722
187.6	5.70	104.1	53100	9/20/92	19	45	20.8229167
187.6	5.38	105.3	53700	9/20/92	19	55	20.8298611
187.6	5.00	104.9	54300	9/20/92	20	5	20.8368056
187.6	4.77	100.9	54900	9/20/92	20	15	20.84375
187.6	5.03	91.1	55500	9/20/92	20	25	20.8506944
187.6	5.53	84.1	56100	9/20/92	20	35	20.8576389
187.8	5.83	81.5	56700	9/20/92	20	45	20.8645833
187.8	6.13	80.0	57300	9/20/92	20	55	20.8715278
187.8	6.60	79.3	57900	9/20/92	21	5	20.8784722
187.6	7.18	78.0	58500	9/20/92	21	15	20.8854167
187.6	7.68	78.3	59100	9/20/92	21	25	20.8923611
187.6	7.82	79.2	59700	9/20/92	21	35	20.8993056

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.6	8.20	81.1	60300	9/20/92	21	45	20.90625
187.6	8.30	82.6	60900	9/20/92	21	55	20.9131944
187.6	8.43	83.6	61500	9/20/92	22	5	20.9201389
187.6	8.00	82.1	62100	9/20/92	22	15	20.9270833
187.6	7.82	79.2	62700	9/20/92	22	25	20.9340278
187.6	7.75	75.3	63300	9/20/92	22	35	20.9409722
187.6	8.05	72.4	63900	9/20/92	22	45	20.9479167
187.6	8.10	71.8	64500	9/20/92	22	55	20.9548611
187.6	8.12	72.1	65100	9/20/92	23	5	20.9618056
187.6	7.98	74.5	65700	9/20/92	23	15	20.96875
187.6	7.88	76.6	66300	9/20/92	23	25	20.9756944
187.6	7.93	77.9	66900	9/20/92	23	35	20.9826389
187.6	8.10	77.9	67500	9/20/92	23	45	20.9895833
187.6	8.27	77.2	68100	9/20/92	23	55	20.9965278
187.8	8.05	78.3	68700	9/21/92	0	5	21.0034722
187.8	7.35	82.6	69300	9/21/92	0	15	21.0104167
187.8	6.72	86.8	69900	9/21/92	0	25	21.0173611
187.8	6.23	90.0	70500	9/21/92	0	35	21.0243056
187.8	6.03	90.9	71100	9/21/92	0	45	21.03125
187.9	5.82	91.9	71700	9/21/92	0	55	21.0381944
187.8	5.70	91.6	72300	9/21/92	1	5	21.0451389
187.8	5.63	92.3	72900	9/21/92	1	15	21.0520833
187.6	5.42	97.4	73500	9/21/92	1	25	21.0590278
187.6	5.27	103.5	74100	9/21/92	1	35	21.0659722
187.6	5.27	108.6	74700	9/21/92	1	45	21.0729167
187.6	5.28	110.1	75300	9/21/92	1	55	21.0798611
187.6	4.90	112.2	75900	9/21/92	2	5	21.0868056
187.6	4.37	115.5	76500	9/21/92	2	15	21.09375
187.6	4.00	119.1	77100	9/21/92	2	25	21.1006944
187.6	3.87	122.4	77700	9/21/92	2	35	21.1076389
187.8	3.68	126.2	78300	9/21/92	2	45	21.1145833
187.8	3.43	131.4	78900	9/21/92	2	55	21.1215278
187.9	3.12	137.5	79500	9/21/92	3	5	21.1284722
187.8	2.85	142.0	80100	9/21/92	3	15	21.1354167
187.8	2.80	143.6	80700	9/21/92	3	25	21.1423611
187.6	2.93	143.2	81300	9/21/92	3	35	21.1493056
187.6	3.02	148.6	81900	9/21/92	3	45	21.15625
187.8	3.20	159.0	82500	9/21/92	3	55	21.1631944
187.8	3.37	168.6	83100	9/21/92	4	5	21.1701389
187.8	3.47	171.7	83700	9/21/92	4	15	21.1770833
187.6	3.47	173.9	84300	9/21/92	4	25	21.1840278
187.8	3.37	175.4	84900	9/21/92	4	35	21.1909722
187.9	3.60	180.5	85500	9/21/92	4	45	21.1979167
187.9	3.67	184.6	86100	9/21/92	4	55	21.2048611
187.9	3.73	188.6	86700	9/21/92	5	5	21.2118056
187.9	3.37	189.0	87300	9/21/92	5	15	21.21875
187.9	2.87	187.2	87900	9/21/92	5	25	21.2256944
187.9	2.50	183.8	88500	9/21/92	5	35	21.2326389
188.1	2.20	180.0	89100	9/21/92	5	45	21.2395833
188.1	2.00	173.2	89700	9/21/92	5	55	21.2465278
188.3	1.68	166.2	90300	9/21/92	6	5	21.2534722
188.3	1.57	160.4	90900	9/21/92	6	15	21.2604167
188.6	1.50	159.5	91500	9/21/92	6	25	21.2673611
188.3	1.55	161.5	92100	9/21/92	6	35	21.2743056
188.1	1.47	164.4	92700	9/21/92	6	45	21.28125
187.8	1.38	166.2	93300	9/21/92	6	55	21.2881944
187.9	1.23	163.0	93900	9/21/92	7	5	21.2951389
187.9	1.12	154.1	94500	9/21/92	7	15	21.3020833

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
188.1	1.15	138.5	95100	9/21/92	7	25	21.3090278
188.1	1.20	115.8	95700	9/21/92	7	35	21.3159722
188.1	1.32	100.4	96300	9/21/92	7	45	21.3229167
188.1	1.30	90.00	96900	9/21/92	7	55	21 3298611
188.3	1.45	102.0	97500	9/21/92	8	5	21.3368056
188.4	1.65	109.8	98100	9/21/92	8	15	21.34375
188.6	1.88	113.0	98700	9/21/92	8	25	21.3506944
188.6	1.93	108.4	99300	9/21/92	8	35	21.3576389
188.4	2.30	99.0	99900	9/21/92	8	45	21.3645833
188.3	2.73	95.5	100500	9/21/92	8	55	21.3715278
188.3	3.37	92.2	101100	9/21/92	9	5	21.3784722
188.4	3.73	93.0	101700	9/21/92	9	15	21.3854167
188.6	4.23	89.5	102300	9/21/92	9	25	21.3923611
188.6	4.52	91.6	102900	9/21/92	9	35	21.3993056
188.4	4.75	96.9	103500	9/21/92	9	45	21.40625
188.4	5.00	103.8	104100	9/21/92	9	55	21.4131944
188.3	5.42	113.2	104700	9/21/92	10	5	21.4201389
188.4	5.85	116.7	105300	9/21/92	10	15	21.4270833
188.4	6.15	118.6	105900	9/21/92	10	25	21.4340278
188.3	6.38	113.2	106500	9/21/92	10	35	21.4409722
188.1	6.73	108.0	107100	9/21/92	10	45	21.4479167
188.1	7.10	105.9	107700	9/21/92	10	55	21.4548611
188.3	7.32	106.0	108300	9/21/92	11	5	21.4618056
188.3	7.35	104.9	108900	9/21/92	11	15	21.46875
187.9	7.23	103.5	109500	9/21/92	11	25	21.4756944
187.9	7.37	100.3	110100	9/21/92	11	35	21.4826389
187.9	7.60	102.8	110700	9/21/92	11	45	21.4895833
188.1	7.77	106.7	111300	9/21/92	11	55	21.4965278
187.9	7.77	110.5	111900	9/21/92	12	5	21.5034722
187.8	7.62	112.5	112500	9/21/92	12	15	21.5104167
187.9	7.57	113.2	113100	9/21/92	12	25	21.5173611
188.1	7.52	114.5	113700	9/21/92	12	35	21.5243056
188.1	7.48	114.8	114300	9/21/92	12	45	21.53125
187.8	7.63	116.2	114900	9/21/92	12	55	21.5381944
187.6	7.95	123.1	115500	9/21/92	13	5	21.5451389
187.6	8.27	127.4	116100	9/21/92	13	15	21.5520833
187.6	8.25	129.4	116700	9/21/92	13	25	21.5590278
187.6	8.10	127.1	117300	9/21/92	13	35	21.5659722
187.6	7.97	128.9	117900	9/21/92	13	45	21.5729167
187.8	7.87	134.6	118500	9/21/92	13	55	21.5798611
187.8	7.93	142.6	119100	9/21/92	14	5	21.5868056
187.9	8.05	149.7	119700	9/21/92	14	15	21.59375
187.8	8.18	154.2	120300	9/21/92	14	25	21.6006944
187.8	8.08	156.0	120900	9/21/92	14	35	21.6076389
187.6	7.85	155.0	121500	9/21/92	14	45	21.6145833
187.6	7.55	151.9	122100	9/21/92	14	55	21.6215278
187.6	7.27	148.6	122700	9/21/92	15	5	21.6284722
187.6	7.10	147.4	123300	9/21/92	15	15	21.6354167
187.6	7.17	147.4	123900	9/21/92	15	25	21.6423611
187.6	7.40	148.0	124500	9/21/92	15	35	21.6493056
187.6	7.58	148.9	125100	9/21/92	15	45	21.65625
187.6	7.77	150.0	125700	9/21/92	15	55	21.6631944
187.6	7.98	150.6	126300	9/21/92	16	5	21.6701389
187.6	8.10	151.6	126900	9/21/92	16	15	21.6770833
187.6	8.07	153.8	127500	9/21/92	16	25	21.6840278
187.6	7.93	160.3	128100	9/21/92	16	35	21.6909722
187.6	8.10	169.0	128700	9/21/92	16	45	21.6979167
187.6	8.43	175.2	129300	9/21/92	16	55	21.7048611

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.6	8.53	178.2	129900	9/21/92	17	5	21.7118056
187.6	8.37	178.6	130500	9/21/92	17	15	21.71875
187.6	8.17	179.5	131100	9/21/92	17	25	21.7256944
187.6	8.07	180.0	131700	9/21/92	17	35	21.7326389
187.6	7.87	179.5	132300	9/21/92	17	45	21.7395833
187.8	7.40	178.7	132900	9/21/92	17	55	21.7465278
187.8	6.67	178.2	133500	9/21/92	18	5	21.7534722
187.8	5.97	179.0	134100	9/21/92	18	15	21.7604167
187.6	5.53	181.3	134700	9/21/92	18	25	21.7673611
187.6	5.13	184.0	135300	9/21/92	18	35	21.7743056
187.6	4.62	187.8	135900	9/21/92	18	45	21.78125
187.6	4.12	192.0	136500	9/21/92	18	55	21.7881944
187.6	3.92	195.5	137100	9/21/92	19	5	21.7951389
187.6	3.98	195.7	137700	9/21/92	19	15	21.8020833
187.6	3.58	192.2	138300	9/21/92	19	25	21.8090278
187.6	3.02	187.5	138900	9/21/92	19	35	21.8159722
187.6	2.60	182.2	139500	9/21/92	19	45	21.8229167
187.6	2.70	183.5	140100	9/21/92	19	55	21.8298611
187.6	3.03	185	140700	9/21/92	20	5	21.8368056
187.6	3.37	188.4	141300	9/21/92	20	15	21.84375
187.6	3.50	189.7	141900	9/21/92	20	25	21.8506944
187.6	3.40	190.0	142500	9/21/92	20	35	21.8576389
187.6	3.78	197.1	143100	9/21/92	20	45	21.8645833
187.6	2.92	198.4	143700	9/21/92	20	55	21.8715278
187.6	2.28	193.5	144300	9/21/92	21	5	21.8784722
187.6	1.25	130.2	144900	9/21/92	21	15	21.8854167
187.6	1.55	107.6	145500	9/21/92	21	25	21.8923611
187.6	1.80	104.7	146100	9/21/92	21	35	21.8993056
187.6	2.00	103.3	146700	9/21/92	21	45	21.90625
187.6	2.57	94.5	147300	9/21/92	21	55	21.9131944
187.6	3.32	88.2	147900	9/21/92	22	5	21.9201389
187.6	4.07	82.0	148500	9/21/92	22	15	21.9270833
187.8	4.67	84.2	149100	9/21/92	22	25	21.9340278
187.8	5.50	83.7	149700	9/21/92	22	35	21.9409722
187.8	6.27	84.5	150300	9/21/92	22	45	21.9479167
187.6	7.08	82.7	150900	9/21/92	22	55	21.9548611
187.6	7.62	83.4	151500	9/21/92	23	5	21.9618056
187.6	8.12	84.5	152100	9/21/92	23	15	21.96875
187.8	8.60	85.7	152700	9/21/92	23	25	21.9756944
187.9	8.97	85.7	153300	9/21/92	23	35	21.9826389
187.9	9.37	85.5	153900	9/21/92	23	45	21.9895833
187.8	9.30	86.9	154500	9/21/92	23	55	21.9965278
187.8	9.08	89.7	155100	9/22/92	0	5	22.0034722
187.9	8.85	96.5	155700	9/22/92	0	15	22.0104167
187.9	8.75	105.1	156300	9/22/92	0	25	22.0173611
187.9	8.37	112.1	156900	9/22/92	0	35	22.0243056
187.9	7.55	117.1	157500	9/22/92	0	45	22.03125
188.3	6.62	119.3	158100	9/22/92	0	55	22.0381944
188.4	5.80	119.7	158700	9/22/92	1	5	22.0451389
188.4	5.15	121.8	159300	9/22/92	1	15	22.0520833
188.1	4.82	124.8	159900	9/22/92	1	25	22.0590278
187.9	4.80	126.8	160500	9/22/92	1	35	22.0659722
187.8	5.00	126.1	161100	9/22/92	1	45	22.0729167
188.1	5.08	126.2	161700	9/22/92	1	55	22.0798611
188.3	5.28	130.1	162300	9/22/92	2	5	22.0868056
188.6	5.40	134.2	162900	9/22/92	2	15	22.09375
188.4	5.45	136.9	163500	9/22/92	2	25	22.1006944

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
188.4	5.40	140.1	164100	9/22/92	2	35	22.1076389
188.3	5.43	144.6	164700	9/22/92	2	45	22.1145833
188.3	5.50	151.5	165300	9/22/92	2	55	22.1215278
187.9	5.37	154.8	165900	9/22/92	3	5	22.1284722
188.1	4.88	154.3	166500	9/22/92	3	15	22.1354167
188.1	4.57	154.1	167100	9/22/92	3	25	22.1423611
188.3	4.80	155.0	167700	9/22/92	3	35	22.1493056
188.1	5.25	153.5	168300	9/22/92	3	45	22.15625
188.1	5.32	148.6	168900	9/22/92	3	55	22.1631944
187.9	5.07	145.6	169500	9/22/92	4	5	22.1701389
188.1	4.85	148.1	170100	9/22/92	4	15	22.1770833
188.3	4.72	149.1	170700	9/22/92	4	25	22.1840278
188.6	4.55	150.8	171300	9/22/92	4	35	22.1909722
188.4	4.52	153.8	171900	9/22/92	4	45	22.1979167
188.4	4.83	163.5	172500	9/22/92	4	55	22.2048611
188.4	5.33	170.6	173100	9/22/92	5	5	22.2118056
188.4	5.58	172.1	173700	9/22/92	5	15	22.21875
188.4	5.62	168.7	174300	9/22/92	5	25	22.2256944
188.1	5.23	163.8	174900	9/22/92	5	35	22.2326389
188.3	4.88	161.8	175500	9/22/92	5	45	22.2395833
188.3	4.45	159.9	176100	9/22/92	5	55	22.2465278
188.6	4.00	158.1	176700	9/22/92	6	5	22.2534722
188.4	3.57	154.1	177300	9/22/92	6	15	22.2604167
188.3	3.08	146.4	177900	9/22/92	6	25	22.2673611
188.3	2.78	133.0	178500	9/22/92	6	35	22.2743056
188.3	2.63	119.4	179100	9/22/92	6	45	22.28125
188.3	2.72	110.6	179700	9/22/92	6	55	22.2881944
188.3	2.92	108.4	180300	9/22/92	7	5	22.2951389
188.4	3.20	108.0	180900	9/22/92	7	15	22.3020833
188.6	3.47	105.4	181500	9/22/92	7	25	22.3090278
188.6	3.77	100.7	182100	9/22/92	7	35	22.3159722
188.6	4.03	95.6	182700	9/22/92	7	45	22.3229167
188.6	4.10	94.1	183300	9/22/92	7	55	22.3298611
188.6	4.17	94.5	183900	9/22/92	8	5	22.3368056
188.6	4.30	92.6	184500	9/22/92	8	15	22.34375
188.6	4.60	90.8	185100	9/22/92	8	25	22.3506944
188.6	4.97	89.6	185700	9/22/92	8	35	22.3576389
188.6	5.27	91.0	186300	9/22/92	8	45	22.3645833
188.6	5.87	91.9	186900	9/22/92	8	55	22.3715278
188.6	6.43	92.9	187500	9/22/92	9	5	22.3784722
188.6	6.50	94.6	188100	9/22/92	9	15	22.3854167
188.6	5.87	97.8	188700	9/22/92	9	25	22.3923611
188.6	5.53	101.0	189300	9/22/92	9	35	22.3993056
188.6	5.70	105.8	189900	9/22/92	9	45	22.40625
188.6	6.07	110.2	190500	9/22/92	9	55	22.4131944
188.6	6.17	108.7	191100	9/22/92	10	5	22.4201389
188.6	6.40	99.8	191700	9/22/92	10	15	22.4270833
188.6	6.80	91.4	192300	9/22/92	10	25	22.4340278
188.4	7.10	87.5	192900	9/22/92	10	35	22.4409722
188.4	7.40	86.1	193500	9/22/92	10	45	22.4479167
188.4	7.70	84.5	194100	9/22/92	10	55	22.4548611
188.6	7.87	85.3	194700	9/22/92	11	5	22.4618056
188.6	7.93	87.8	195300	9/22/92	11	15	22.46875
188.6	8.00	91.6	195900	9/22/92	11	25	22.4756944
188.6	8.00	93.5	196500	9/22/92	11	35	22.4826389
188.6	7.83	95.8	197100	9/22/92	11	45	22.4895833
188.6	7.63	98.5	197700	9/22/92	11	55	22.4965278
188.6	7.52	104.0	198300	9/22/92	12	5	22.5034722

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
188.6	7.67	105.6	198900	9/22/92	12	15	22.5104167
188.6	7.73	103.6	199500	9/22/92	12	25	22.5173611
188.6	7.63	99.7	200100	9/22/92	12	35	22.5243056
188.6	7.22	99.5	200700	9/22/92	12	45	22.53125
188.6	6.80	103.5	201300	9/22/92	12	55	22.5381944
188.6	6.52	107.1	201900	9/22/92	13	5	22.5451389
188.6	6.38	108.1	202500	9/22/92	13	15	22.5520833
188.6	6.25	107.2	203100	9/22/92	13	25	22.5590278
188.6	5.95	105.5	203700	9/22/92	13	35	22.5659722
188.6	5.60	104.3	204300	9/22/92	13	45	22.5729167
188.6	5.25	98.3	204900	9/22/92	13	55	22.5798611
188.6	5.15	96.2	205500	9/22/92	14	5	22.5868056
188.4	5.17	97.3	206100	9/22/92	14	15	22.59375
188.4	5.38	102.4	206700	9/22/92	14	25	22.6006944
188.1	5.50	103.8	207300	9/22/92	14	35	22.6076389
188.3	5.60	106.0	207900	9/22/92	14	45	22.6145833
188.1	5.78	108.3	208500	9/22/92	14	55	22.6215278
188.3	5.75	117.4	209100	9/22/92	15	5	22.6284722
188.3	5.75	125.9	209700	9/22/92	15	15	22.6354167
188.3	5.55	131.6	210300	9/22/92	15	25	22.6423611
188.3	5.60	134.5	210900	9/22/92	15	35	22.6493056
188.1	5.50	137.2	211500	9/22/92	15	45	22.65625
188.1	4.98	141.3	212100	9/22/92	15	55	22.6631944
187.9	4.53	141.2	212700	9/22/92	16	5	22.6701389
187.8	4.07	138.2	213300	9/22/92	16	15	22.6770833
187.6	3.93	139.0	213900	9/22/92	16	25	22.6840278
187.9	3.95	141.7	214500	9/22/92	16	35	22.6909722
188.1	4.07	141.9	215100	9/22/92	16	45	22.6979167
188.1	4.33	138.1	215700	9/22/92	16	55	22.7048611
187.9	4.53	135.8	216300	9/22/92	17	5	22.7118056
187.8	4.70	136.1	216900	9/22/92	17	15	22.71875
187.8	4.80	140.9	217500	9/22/92	17	25	22.7256944
187.6	4.62	146.1	218100	9/22/92	17	35	22.7326389
187.6	4.12	153.6	218700	9/22/92	17	45	22.7395833
187.6	3.67	162.5	219300	9/22/92	17	55	22.7465278
187.6	3.45	174.9	219900	9/22/92	18	5	22.7534722
187.6	3.40	186.7	220500	9/22/92	18	15	22.7604167
187.6	3.52	195.2	221100	9/22/92	18	25	22.7673611
187.6	3.82	198.5	221700	9/22/92	18	35	22.7743056
187.6	4.28	203.1	222300	9/22/92	18	45	22.78125
187.6	4.40	208.8	222900	9/22/92	18	55	22.7881944
187.6	4.05	214.7	223500	9/22/92	19	5	22.7951389
187.6	3.77	217.1	224100	9/22/92	19	15	22.8020833
187.6	3.50	215.7	224700	9/22/92	19	25	22.8090278
187.6	3.32	211.9	225300	9/22/92	19	35	22.8159722
187.6	2.77	206.8	225900	9/22/92	19	45	22.8229167
187.6	2.10	197.5	226500	9/22/92	19	55	22.8298611
187.6	1.62	180.0	227100	9/22/92	20	5	22.8368056
187.6	1.50	152.8	227700	9/22/92	20	15	22.84375
187.6	1.88	132.0	228300	9/22/92	20	25	22.8506944
187.6	2.23	116.1	228900	9/22/92	20	35	22.8576389
187.6	2.58	104.2	229500	9/22/92	20	45	22.8645833
187.6	3.02	88.0	230100	9/22/92	20	55	22.8715278
187.6	3.70	76.8	230700	9/22/92	21	5	22.8784722
187.6	4.65	70.9	231300	9/22/92	21	15	22.8854167
187.6	5.52	71.4	231900	9/22/92	21	25	22.8923611
187.6	5.93	71.7	232500	9/22/92	21	35	22.8993056
187.6	5.92	70.3	233100	9/22/92	21	45	22.90625

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.6	5.83	68.3	233700	9/22/92	21	55	22.9131944
187.6	6.03	66.3	234300	9/22/92	22	5	22.9201389
187.6	6.43	65.4	234900	9/22/92	22	15	22.9270833
187.6	6.62	64.8	235500	9/22/92	22	25	22.9340278
187.6	6.97	65.0	236100	9/22/92	22	35	22.9409722
187.6	7.47	65.5	236700	9/22/92	22	45	22.9479167
187.6	7.77	66.0	237300	9/22/92	22	55	22.9548611
187.6	8.05	68.9	237900	9/22/92	23	5	22.9618056
187.6	8.23	72.3	238500	9/22/92	23	15	22.96875
187.6	8.52	75.0	239100	9/22/92	23	25	22.9756944
187.6	8.62	74.3	239700	9/22/92	23	35	22.9826389
187.6	8.73	70.6	240300	9/22/92	23	45	22.9895833
187.8	9.28	65.9	240900	9/22/92	23	55	22.9965278
187.8	9.83	63.0	241500	9/23/92	0	5	23.0034722
187.8	10.22	62.1	242100	9/23/92	0	15	23.0104167
187.6	10.35	61.7	242700	9/23/92	0	25	23.0173611
187.6	9.88	63.2	243300	9/23/92	0	35	23.0243056
187.6	9.17	65.5	243900	9/23/92	0	45	23.03125
187.9	8.38	69.3	244500	9/23/92	0	55	23.0381944
188.1	8.08	71.5	245100	9/23/92	1	5	23.0451389
188.1	7.83	72.2	245700	9/23/92	1	15	23.0520833
187.8	7.47	73.0	246300	9/23/92	1	25	23.0590278
187.6	7.12	72.1	246900	9/23/92	1	35	23.0659722
187.8	7.03	72.5	247500	9/23/92	1	45	23.0729167
188.1	7.12	71.8	248100	9/23/92	1	55	23.0798611
188.4	7.30	72.3	248700	9/23/92	2	5	23.0868056
188.3	7.58	74.2	249300	9/23/92	2	15	23.09375
188.1	7.85	77.0	249900	9/23/92	2	25	23.1006944
187.8	8.13	80.6	250500	9/23/92	2	35	23.1076389
188.1	8.12	83.1	251100	9/23/92	2	45	23.1145833
188.1	7.97	85.9	251700	9/23/92	2	55	23.1215278
188.3	7.67	87.5	252300	9/23/92	3	5	23.1284722
187.9	7.23	89.2	252900	9/23/92	3	15	23.1354167
188.1	6.80	89.4	253500	9/23/92	3	25	23.1423611
188.1	6.23	89.3	254100	9/23/92	3	35	23.1493056
188.3	5.70	87.9	254700	9/23/92	3	45	23.15625
187.9	5.43	87.1	255300	9/23/92	3	55	23.1631944
188.1	5.40	85.7	255900	9/23/92	4	5	23.1701389
187.9	5.53	84.1	256500	9/23/92	4	15	23.1770833
188.3	5.57	84.5	257100	9/23/92	4	25	23.1840278
188.1	5.40	88.2	257700	9/23/92	4	35	23.1909722
188.1	5.10	92.9	258300	9/23/92	4	45	23.1979167
187.8	4.90	96.2	258900	9/23/92	4	55	23.2048611
187.8	4.67	96.5	259500	9/23/92	5	5	23.2118056
187.9	4.57	97.4	260100	9/23/92	5	15	23.21875
188.3	4.50	95.9	260700	9/23/92	5	25	23.2256944
188.3	4.47	95.5	261300	9/23/92	5	35	23.2326389
188.3	4.47	92.1	261900	9/23/92	5	45	23.2395833
187.9	4.30	88.6	262500	9/23/92	5	55	23.2465278
187.9	4.40	84.3	263100	9/23/92	6	5	23.2534722
187.9	4.60	85.0	263700	9/23/92	6	15	23.2604167
188.3	4.80	90.0	264300	9/23/92	6	25	23.2673611
188.1	4.90	94.2	264900	9/23/92	6	35	23.2743056
187.9	4.97	94.2	265500	9/23/92	6	45	23.28125
187.9	5.03	91.1	266100	9/23/92	6	55	23.2881944
187.9	5.28	89.2	266700	9/23/92	7	5	23.2951389
188.1	5.62	89.3	267300	9/23/92	7	15	23.3020833

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.8	5.95	90.6	267900	9/23/92	7	25	23.3090278
187.9	6.20	92.7	268500	9/23/92	7	35	23.3159722
187.9	6.12	96.2	269100	9/23/92	7	45	23.3229167
188.1	5.85	98.4	269700	9/23/92	7	55	23.3298611
188.3	5.55	99.5	270300	9/23/92	8	5	23.3368056
188.4	5.50	100.0	270900	9/23/92	8	15	23.34375
188.4	5.53	100.3	271500	9/23/92	8	25	23.3506944
188.3	5.57	100.2	272100	9/23/92	8	35	23.3576389
188.3	5.63	98.0	272700	9/23/92	8	45	23.3645833
188.4	5.73	93.6	273300	9/23/92	8	55	23.3715278
188.6	5.90	87.7	273900	9/23/92	9	5	23.3784722
188.4	6.23	84.8	274500	9/23/92	9	15	23.3854167
188.4	6.83	84.1	275100	9/23/92	9	25	23.3923611
188.4	7.33	86.3	275700	9/23/92	9	35	23.3993056
188.4	7.67	87.0	276300	9/23/92	9	45	23.40625
188.4	7.70	87.7	276900	9/23/92	9	55	23.4131944
188.4	7.67	86.7	277500	9/23/92	10	5	23.4201389
188.6	7.73	86.7	278100	9/23/92	10	15	23.4270833
188.4	7.87	88.5	278700	9/23/92	10	25	23.4340278
188.4	7.93	90.4	279300	9/23/92	10	35	23.4409722
188.3	7.83	91.7	279900	9/23/92	10	45	23.4479167
188.4	7.87	91.4	280500	9/23/92	10	55	23.4548611
188.4	7.83	90.9	281100	9/23/92	11	5	23.4618056
188.6	7.60	90.0	281700	9/23/92	11	15	23.46875
188.4	7.27	90.0	282300	9/23/92	11	25	23.4756944
188.4	7.20	90.0	282900	9/23/92	11	35	23.4826389
188.4	7.30	91.0	283500	9/23/92	11	45	23.4895833
188.6	7.47	91.5	284100	9/23/92	11	55	23.4965278
188.4	7.50	91.2	284700	9/23/92	12	5	23.5034722
188.4	7.63	89.7	285300	9/23/92	12	15	23.5104167
188.4	7.80	89.2	285900	9/23/92	12	25	23.5173611
188.6	7.97	91.6	286500	9/23/92	12	35	23.5243056
188.6	8.03	94.5	287100	9/23/92	12	45	23.53125
188.6	7.83	96.7	287700	9/23/92	12	55	23.5381944
188.6	7.70	97.6	288300	9/23/92	13	5	23.5451389
188.4	7.52	98.5	288900	9/23/92	13	15	23.5520833
188.4	7.48	99.9	289500	9/23/92	13	25	23.5590278
188.4	7.38	100.0	290100	9/23/92	13	35	23.5659722
188.4	7.18	100.3	290700	9/23/92	13	45	23.5729167
188.4	7.05	101.8	291300	9/23/92	13	55	23.5798611
188.4	7.08	103.7	291900	9/23/92	14	5	23.5868056
188.4	7.17	105.5	292500	9/23/92	14	15	23.59375
188.3	6.98	106.5	293100	9/23/92	14	25	23.6006944
187.9	6.58	109.7	293700	9/23/92	14	35	23.6076389
187.9	6.28	112.9	294300	9/23/92	14	45	23.6145833
188.1	6.17	115.3	294900	9/23/92	14	55	23.6215278
188.4	6.23	117.1	295500	9/23/92	15	5	23.6284722
188.6	6.17	120.2	296100	9/23/92	15	15	23.6354167
188.6	6.05	122.0	296700	9/23/92	15	25	23.6423611
188.6	5.58	123.4	297300	9/23/92	15	35	23.6493056
188.6	5.07	123.5	297900	9/23/92	15	45	23.65625
188.6	4.43	125.9	298500	9/23/92	15	55	23.6631944
188.3	4.20	128.3	299100	9/23/92	16	5	23.6701389
187.9	4.23	126.4	299700	9/23/92	16	15	23.6770833
187.8	4.70	121.4	300300	9/23/92	16	25	23.6840278
187.8	5.07	117.0	300900	9/23/92	16	35	23.6909722
187.9	5.33	117.9	301500	9/23/92	16	45	23.6979167

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.9	5.42	120.3	302100	9/23/92	16	55	23.7048611
188.1	5.23	123.9	302700	9/23/92	17	5	23.7118056
188.1	4.83	128.0	303300	9/23/92	17	15	23.71875
188.1	4.37	133.7	303900	9/23/92	17	25	23.7256944
187.9	4.17	138.5	304500	9/23/92	17	35	23.7326389
187.9	4.37	139.9	305100	9/23/92	17	45	23.7395833
187.8	4.60	140.8	305700	9/23/92	17	55	23.7465278
187.8	4.85	142.7	306300	9/23/92	18	5	23.7534722
187.6	4.92	147.3	306900	9/23/92	18	15	23.7604167
187.6	5.00	150.2	307500	9/23/92	18	25	23.7673611
187.6	5.13	149.2	308100	9/23/92	18	35	23.7743056
187.6	5.22	144.5	308700	9/23/92	18	45	23.78125
187.6	5.15	142.8	309300	9/23/92	18	55	23.7881944
187.6	4.98	143.3	309900	9/23/92	19	5	23.7951389
187.6	4.93	144.2	310500	9/23/92	19	15	23.8020833
187.6	4.95	142.5	311100	9/23/92	19	25	23.8090278
187.6	4.95	139.6	311700	9/23/92	19	35	23.8159722
187.6	5.03	138.1	312300	9/23/92	19	45	23.8229167
187.6	5.13	136.5	312900	9/23/92	19	55	23.8298611
187.6	5.17	136.5	313500	9/23/92	20	5	23.8368056
187.6	5.03	137.1	314100	9/23/92	20	15	23.84375
187.6	5.00	139.2	314700	9/23/92	20	25	23.8506944
187.6	5.07	139.2	315300	9/23/92	20	35	23.8576389
187.6	5.37	134.4	315900	9/23/92	20	45	23.8645833
187.6	5.68	129.0	316500	9/23/92	20	55	23.8715278
187.6	5.98	125.0	317100	9/23/92	21	5	23.8784722
187.6	6.20	122.3	317700	9/23/92	21	15	23.8854167
187.6	6.37	120.7	318300	9/23/92	21	25	23.8923611
187.6	6.67	118.2	318900	9/23/92	21	35	23.8993056
187.6	6.92	116.1	319500	9/23/92	21	45	23.90625
187.6	7.33	114.5	320100	9/23/92	21	55	23.9131944
187.6	7.77	112.8	320700	9/23/92	22	5	23.9201389
187.6	7.98	111.4	321300	9/23/92	22	15	23.9270833
187.6	8.02	109.0	321900	9/23/92	22	25	23.9340278
187.6	8.03	106.2	322500	9/23/92	22	35	23.9409722
187.6	8.18	103.8	323100	9/23/92	22	45	23.9479167
187.6	8.23	101.1	323700	9/23/92	22	55	23.9548611
187.6	8.22	99.0	324300	9/23/92	23	5	23.9618056
187.6	8.28	98.0	324900	9/23/92	23	15	23.96875
187.6	8.60	97.2	325500	9/23/92	23	25	23.9756944
187.6	8.97	97.2	326100	9/23/92	23	35	23.9826389
187.6	8.87	96.8	326700	9/23/92	23	45	23.9895833
187.6	8.53	97.1	327300	9/23/92	23	55	23.9965278
187.6	7.72	99.6	327900	9/24/92	0	5	24.0034722
187.6	7.45	102.0	328500	9/24/92	0	15	24.0104167
187.6	7.33	103.8	329100	9/24/92	0	25	24.0173611
187.6	7.78	103.5	329700	9/24/92	0	35	24.0243056
187.6	8.08	103.2	330300	9/24/92	0	45	24.03125
187.6	8.15	103.1	330900	9/24/92	0	55	24.0381944
187.8	8.05	101.4	331500	9/24/92	1	5	24.0451389
187.8	7.92	98.9	332100	9/24/92	1	15	24.0520833
187.8	7.95	97.6	332700	9/24/92	1	25	24.0590278
187.8	8.07	99.2	333300	9/24/92	1	35	24.0659722
187.8	8.15	102.4	333900	9/24/92	1	45	24.0729167
187.8	8.02	105.5	334500	9/24/92	1	55	24.0798611
187.8	7.52	107.7	335100	9/24/92	2	5	24.0868056
187.9	7.00	108.1	335700	9/24/92	2	15	24.09375

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.9	6.70	106.9	336300	9/24/92	2	25	24.1006944
187.9	6.65	106.4	336900	9/24/92	2	35	24.1076389
187.9	6.67	107.6	337500	9/24/92	2	45	24.1145833
187.9	6.62	108.9	338100	9/24/92	2	55	24.1215278
187.9	6.70	109.0	338700	9/24/92	3	5	24.1284722
187.8	6.87	109.4	339300	9/24/92	3	15	24.1354167
187.9	6.87	110.9	339900	9/24/92	3	25	24.1423611
187.8	6.77	114.0	340500	9/24/92	3	35	24.1493056
187.8	6.53	118.2	341100	9/24/92	3	45	24.15625
187.8	6.63	122.0	341700	9/24/92	3	55	24.1631944
187.9	6.43	124.9	342300	9/24/92	4	5	24.1701389
188.1	6.38	126.7	342900	9/24/92	4	15	24.1770833
188.1	6.13	130.1	343500	9/24/92	4	25	24.1840278
187.9	5.87	135.6	344100	9/24/92	4	35	24.1909722
187.8	5.42	140.9	344700	9/24/92	4	45	24.1979167
187.6	4.88	146.3	345300	9/24/92	4	55	24.2048611
187.8	4.60	149.3	345900	9/24/92	5	5	24.2118056
187.9	4.27	150.2	346500	9/24/92	5	15	24.21875
187.9	4.12	148.4	347100	9/24/92	5	25	24.2256944
187.8	3.88	148.6	347700	9/24/92	5	35	24.2326389
187.9	3.93	151.9	348300	9/24/92	5	45	24.2395833
188.1	3.78	156.5	348900	9/24/92	5	55	24.2465278
188.3	3.62	157.6	349500	9/24/92	6	5	24.2534722
187.9	3.22	159.7	350100	9/24/92	6	15	24.2604167
187.9	2.95	159.1	350700	9/24/92	6	25	24.2673611
187.8	2.77	159.8	351300	9/24/92	6	35	24.2743056
187.9	2.58	159.9	351900	9/24/92	6	45	24.28125
187.9	2.42	161.8	352500	9/24/92	6	55	24.2881944
188.1	2.40	160.0	353100	9/24/92	7	5	24.2951389
188.1	2.48	158.1	353700	9/24/92	7	15	24.3020833
187.9	2.45	156.1	354300	9/24/92	7	25	24.3090278
187.9	2.33	154.8	354900	9/24/92	7	35	24.3159722
187.9	2.20	155.3	355500	9/24/92	7	45	24.3229167
187.9	2.15	158.5	356100	9/24/92	7	55	24.3298611
187.8	2.02	159.2	356700	9/24/92	8	5	24.3368056
187.8	2.15	151.4	357300	9/24/92	8	15	24.34375
187.8	2.30	139.6	357900	9/24/92	8	25	24.3506944
187.8	2.58	130.8	358500	9/24/92	8	35	24.3576389
187.6	2.78	123.8	359100	9/24/92	8	45	24.3645833
187.8	2.88	120.0	359700	9/24/92	8	55	24.3715278
188.1	2.98	116.2	360300	9/24/92	9	5	24.3784722
188.4	2.83	110.5	360900	9/24/92	9	15	24.3854167
188.4	3.03	106.4	361500	9/24/92	9	25	24.3923611
188.1	3.17	100.2	362100	9/24/92	9	35	24.3993056
187.9	3.52	97.0	362700	9/24/92	9	45	24.40625
187.9	3.80	94.0	363300	9/24/92	9	55	24.4131944
188.3	4.33	94.3	363900	9/24/92	10	5	24.4201389
188.3	4.95	93.0	364500	9/24/92	10	15	24.4270833
188.3	5.52	90.0	365100	9/24/92	10	25	24.4340278
188.3	6.02	87.1	365700	9/24/92	10	35	24.4409722
188.3	6.37	85.5	366300	9/24/92	10	45	24.4479167
188.4	6.60	85.3	366900	9/24/92	10	55	24.4548611
188.3	6.57	85.6	367500	9/24/92	11	5	24.4618056
188.4	6.53	87.9	368100	9/24/92	11	15	24.46875
188.4	6.57	90.2	368700	9/24/92	11	25	24.4756944
188.6	6.63	92.0	369300	9/24/92	11	35	24.4826389
188.6	6.63	92.5	369900	9/24/92	11	45	24.4895833

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
188.6	6.60	93.4	370500	9/24/92	11	55	24.4965278
188.6	6.63	93.7	371100	9/24/92	12	5	24.5034722
188.6	6.60	92.8	371700	9/24/92	12	15	24.5104167
188.6	6.57	90.8	372300	9/24/92	12	25	24.5173611
188.6	6.50	89.7	372900	9/24/92	12	35	24.5243056
188.6	6.50	89.4	373500	9/24/92	12	45	24.53125
188.6	6.23	89.6	374100	9/24/92	12	55	24.5381944
188.4	5.98	90.3	374700	9/24/92	13	5	24.5451389
188.4	5.82	91.3	375300	9/24/92	13	15	24.5520833
188.4	6.15	92.7	375900	9/24/92	13	25	24.5590278
188.6	6.53	92.9	376500	9/24/92	13	35	24.5659722
188.6	6.73	92.2	377100	9/24/92	13	45	24.5729167
188.6	6.73	91.1	377700	9/24/92	13	55	24.5798611
188.6	6.77	91.9	378300	9/24/92	14	5	24.5868056
188.6	6.77	92.2	378900	9/24/92	14	15	24.59375
188.6	7.03	92.4	379500	9/24/92	14	25	24.6006944
188.4	7.17	92.1	380100	9/24/92	14	35	24.6076389
188.4	7.43	92.3	380700	9/24/92	14	45	24.6145833
188.4	7.20	93.1	381300	9/24/92	14	55	24.6215278
188.6	7.03	95.7	381900	9/24/92	15	5	24.6284722
188.6	6.73	99.0	382500	9/24/92	15	15	24.6354167
188.6	6.83	101.4	383100	9/24/92	15	25	24.6423611
188.6	6.77	103.0	383700	9/24/92	15	35	24.6493056
188.4	6.87	104.2	384300	9/24/92	15	45	24.65625
188.4	6.47	106.0	384900	9/24/92	15	55	24.6631944
188.4	6.22	108.3	385500	9/24/92	16	5	24.6701389
188.4	6.05	111.2	386100	9/24/92	16	15	24.6770833
188.4	5.95	113.2	386700	9/24/92	16	25	24.6840278
188.4	5.73	111.6	387300	9/24/92	16	35	24.6909722
188.6	5.43	110.6	387900	9/24/92	16	45	24.6979167
188.6	5.07	112.2	388500	9/24/92	16	55	24.7048611
188.6	4.63	117.6	389100	9/24/92	17	5	24.7118056
188.6	4.25	124.5	389700	9/24/92	17	15	24.71875
188.3	4.33	127.5	390300	9/24/92	17	25	24.7256944
188.1	4.47	127.8	390900	9/24/92	17	35	24.7326389
187.8	4.38	127.0	391500	9/24/92	17	45	24.7395833
187.9	4.32	128.1	392100	9/24/92	17	55	24.7465278
188.1	4.62	129.4	392700	9/24/92	18	5	24.7534722
188.1	4.97	132.2	393300	9/24/92	18	15	24.7604167
188.1	5.08	137.3	393900	9/24/92	18	25	24.7673611
187.9	4.97	145.9	394500	9/24/92	18	35	24.7743056
188.1	5.02	152.7	395100	9/24/92	18	45	24.78125
187.9	5.27	155.0	395700	9/24/92	18	55	24.7881944
187.9	5.52	156.6	396300	9/24/92	19	5	24.7951389
187.8	5.75	157.2	396900	9/24/92	19	15	24.8020833
187.8	5.73	159.0	397500	9/24/92	19	25	24.8090278
187.6	5.55	160.4	398100	9/24/92	19	35	24.8159722
187.8	5.30	163.3	398700	9/24/92	19	45	24.8229167
187.8	5.25	163.9	399300	9/24/92	19	55	24.8298611
187.9	5.32	165.2	399900	9/24/92	20	5	24.8368056
188.1	5.37	166.4	400500	9/24/92	20	15	24.84375
188.3	5.32	171.0	401100	9/24/92	20	25	24.8506944
188.1	5.27	174.5	401700	9/24/92	20	35	24.8576389
187.9	5.10	177.3	402300	9/24/92	20	45	24.8645833
187.9	4.70	177.9	402900	9/24/92	20	55	24.8715278
187.9	4.33	176.4	403500	9/24/92	21	5	24.8784722
187.9	3.97	174.7	404100	9/24/92	21	15	24.8854167

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.8	3.98	170.3	404700	9/24/92	21	25	24.8923611
187.8	3.95	163.8	405300	9/24/92	21	35	24.8993056
187.8	4.10	156.1	405900	9/24/92	21	45	24.90625
187.8	3.97	150.0	406500	9/24/92	21	55	24.9131944
187.8	4.10	143.2	407100	9/24/92	22	5	24.9201389
187.6	4.42	136.5	407700	9/24/92	22	15	24.9270833
187.6	4.82	134.1	408300	9/24/92	22	25	24.9340278
187.6	4.75	136.4	408900	9/24/92	22	35	24.9409722
187.8	4.42	143.5	409500	9/24/92	22	45	24.9479167
187.9	4.10	148.8	410100	9/24/92	22	55	24.9548611
187.9	3.97	150.6	410700	9/24/92	23	5	24.9618056
187.9	3.87	149.2	411300	9/24/92	23	15	24.96875
187.9	3.62	146.8	411900	9/24/92	23	25	24.9756944
187.9	3.27	146.4	412500	9/24/92	23	35	24.9826389
187.9	2.90	147.9	413100	9/24/92	23	45	24.9895833
187.8	2.63	149.6	413700	9/24/92	23	55	24.9965278
187.8	2.38	145.6	414300	9/25/92	0	5	25.0034722
187.8	2.25	131.9	414900	9/25/92	0	15	25.0104167
187.9	2.27	114.6	415500	9/25/92	0	25	25.0173611
187.9	2.47	102.5	416100	9/25/92	0	35	25.0243056
188.1	2.73	92.0	416700	9/25/92	0	45	25.03125
187.9	2.97	86.7	417300	9/25/92	0	55	25.0381944
187.9	3.38	80.9	417900	9/25/92	1	5	25.0451389
187.8	3.83	77.0	418500	9/25/92	1	15	25.0520833
187.9	4.33	72.2	419100	9/25/92	1	25	25.0590278
188.1	4.63	67.2	419700	9/25/92	1	35	25.0659722
188.3	4.68	62.7	420300	9/25/92	1	45	25.0729167
188.3	4.85	59.2	420900	9/25/92	1	55	25.0798611
188.3	4.98	58.8	421500	9/25/92	2	5	25.0868056
188.1	5.18	60.1	422100	9/25/92	2	15	25.09375
188.3	5.22	62.1	422700	9/25/92	2	25	25.1006944
188.4	5.43	64.8	423300	9/25/92	2	35	25.1076389
188.4	5.82	66.9	423900	9/25/92	2	45	25.1145833
188.1	6.18	68.3	424500	9/25/92	2	55	25.1215278
187.9	6.35	67.7	425100	9/25/92	3	5	25.1284722
187.9	6.30	67.4	425700	9/25/92	3	15	25.1354167
188.3	6.27	68.3	426300	9/25/92	3	25	25.1423611
188.4	6.32	69.4	426900	9/25/92	3	35	25.1493056
188.4	6.53	70.4	427500	9/25/92	3	45	25.15625
188.4	6.47	71.1	428100	9/25/92	3	55	25.1631944
188.3	6.18	73.5	428700	9/25/92	4	5	25.1701389
188.1	5.67	76.8	429300	9/25/92	4	15	25.1770833
188.1	5.53	80.3	429900	9/25/92	4	25	25.1840278
188.1	5.48	81.3	430500	9/25/92	4	35	25.1909722
188.3	5.45	81.9	431100	9/25/92	4	45	25.1979167
187.9	5.18	83.7	431700	9/25/92	4	55	25.2048611
187.8	4.93	87.2	432300	9/25/92	5	5	25.2118056
187.6	4.73	89.5	432900	9/25/92	5	15	25.21875
187.8	4.80	90.3	433500	9/25/92	5	25	25.2256944
187.9	4.97	92.3	434100	9/25/92	5	35	25.2326389
188.3	5.17	95.1	434700	9/25/92	5	45	25.2395833
188.3	5.18	98.4	435300	9/25/92	5	55	25.2465278
188.3	5.37	101.7	435900	9/25/92	6	5	25.2534722
187.9	5.60	104.0	436500	9/25/92	6	15	25.2604167
187.8	5.90	105.9	437100	9/25/92	6	25	25.2673611
187.6	5.92	109.0	437700	9/25/92	6	35	25.2743056
187.8	5.83	113.9	438300	9/25/92	6	45	25.28125

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
187.9	5.72	119.9	438900	9/25/92	6	55	25.2881944
187.9	5.68	124.3	439500	9/25/92	7	5	25.2951389
187.9	5.67	127.2	440100	9/25/92	7	15	25.3020833
187.9	5.72	129.8	440700	9/25/92	7	25	25.3090278
188.1	5.60	133.3	441300	9/25/92	7	35	25.3159722
187.9	5.52	137.6	441900	9/25/92	7	45	25.3229167
187.9	5.42	140.9	442500	9/25/92	7	55	25.3298611
187.8	5.50	143.3	443100	9/25/92	8	5	25.3368056
187.9	5.53	143.0	443700	9/25/92	8	15	25.34375
187.8	5.40	142.4	444300	9/25/92	8	25	25.3506944
187.8	5.18	141.7	444900	9/25/92	8	35	25.3576389
187.6	4.97	141.7	445500	9/25/92	8	45	25.3645833
187.6	4.75	143.2	446100	9/25/92	8	55	25.3715278
187.8	4.58	143.2	446700	9/25/92	9	5	25.3784722
187.9	4.45	144.0	447300	9/25/92	9	15	25.3854167
188.1	4.43	142.2	447900	9/25/92	9	25	25.3923611
187.9	4.48	136.8	448500	9/25/92	9	35	25.3993056
187.8	4.50	129.5	449100	9/25/92	9	45	25.40625
187.8	4.48	122.0	449700	9/25/92	9	55	25.4131944
187.8	4.40	118.0	450300	9/25/92	10	5	25.4201389
187.8	4.28	114.9	450900	9/25/92	10	15	25.4270833
187.8	4.20	111.7	451500	9/25/92	10	25	25.4340278
187.9	4.27	106.3	452100	9/25/92	10	35	25.4409722
187.9	4.50	101.4	452700	9/25/92	10	45	25.4479167
187.9	4.80	99.9	453300	9/25/92	10	55	25.4548611
187.8	4.92	96.9	453900	9/25/92	11	5	25.4618056
187.9	5.08	94.5	454500	9/25/92	11	15	25.46875
187.9	5.33	90.3	455100	9/25/92	11	25	25.4756944
188.1	5.85	87.0	455700	9/25/92	11	35	25.4826389
188.1	6.33	83.3	456300	9/25/92	11	45	25.4895833
188.3	6.63	82.5	456900	9/25/92	11	55	25.4965278
188.3	6.82	83.5	457500	9/25/92	12	5	25.5034722
188.1	6.95	83.4	458100	9/25/92	12	15	25.5104167
188.1	7.12	80.8	458700	9/25/92	12	25	25.5173611
188.3	7.15	80.1	459300	9/25/92	12	35	25.5243056
188.6	6.83	84.1	459900	9/25/92	12	45	25.53125
188.4	6.57	90.8	460500	9/25/92	12	55	25.5381944
188.4	6.50	94.9	461100	9/25/92	13	5	25.5451389
188.3	6.67	95.9	461700	9/25/92	13	15	25.5520833
188.4	6.65	97.4	462300	9/25/92	13	25	25.5590278
188.4	6.45	101.3	462900	9/25/92	13	35	25.5659722
188.4	6.35	105.1	463500	9/25/92	13	45	25.5729167
188.4	6.37	108.1	464100	9/25/92	13	55	25.5798611
188.4	6.40	110.8	464700	9/25/92	14	5	25.5868056
188.6	6.32	113.7	465300	9/25/92	14	15	25.59375
188.6	6.12	116.7	465900	9/25/92	14	25	25.6006944
188.6	6.05	119.5	466500	9/25/92	14	35	25.6076389
188.6	6.28	120.0	467100	9/25/92	14	45	25.6145833
188.6	6.55	121.1	467700	9/25/92	14	55	25.6215278
188.6	6.67	122.1	468300	9/25/92	15	5	25.6284722
188.4	6.57	124.3	468900	9/25/92	15	15	25.6354167
188.3	6.60	123.1	469500	9/25/92	15	25	25.6423611
188.1	6.55	120.0	470100	9/25/92	15	35	25.6493056
188.1	6.50	119.3	470700	9/25/92	15	45	25.65625
188.1	6.23	119.9	471300	9/25/92	15	55	25.6631944
188.1	5.97	123.2	471900	9/25/92	16	5	25.6701389
188.1	5.67	127.1	472500	9/25/92	16	15	25.6770833

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
188.3	5.35	130.9	473100	9/25/92	16	25	25.6840278
188.3	5.03	132.6	473700	9/25/92	16	35	25.6909722
188.1	4.77	130.5	474300	9/25/92	16	45	25.6979167
187.9	4.65	127.5	474900	9/25/92	16	55	25.7048611
187.9	4.48	128.7	475500	9/25/92	17	5	25.7118056
187.9	4.08	133.6	476100	9/25/92	17	15	25.71875
187.8	3.90	140.5	476700	9/25/92	17	25	25.7256944
187.8	3.78	143.8	477300	9/25/92	17	35	25.7326389
187.8	3.83	142.3	477900	9/25/92	17	45	25.7395833
187.8	3.60	138.7	478500	9/25/92	17	55	25.7465278
187.8	3.47	138.8	479100	9/25/92	18	5	25.7534722
188.1	3.30	146.6	479700	9/25/92	18	15	25.7604167
188.3	3.52	162.6	480300	9/25/92	18	25	25.7673611
188.3	3.72	174.8	480900	9/25/92	18	35	25.7743056
187.9	3.93	179.5	481500	9/25/92	18	45	25.78125
187.9	4.00	180.4	482100	9/25/92	18	55	25.7881944
187.8	4.20	180.4	482700	9/25/92	19	5	25.7951389
187.8	4.47	180.8	483300	9/25/92	19	15	25.8020833
187.8	4.70	181.2	483900	9/25/92	19	25	25.8090278
187.8	5.07	182.2	484500	9/25/92	19	35	25.8159722
187.9	5.63	186.1	485100	9/25/92	19	45	25.8229167
187.8	6.02	190.1	485700	9/25/92	19	55	25.8298611
187.9	6.12	192.8	486300	9/25/92	20	5	25.8368056
187.8	6.05	193.2	486900	9/25/92	20	15	25.84375
187.9	6.08	193.5	487500	9/25/92	20	25	25.8506944
187.8	6.33	195.4	488100	9/25/92	20	35	25.8576389
188.1	6.57	197.2	488700	9/25/92	20	45	25.8645833
187.9	6.63	195.9	489300	9/25/92	20	55	25.8715278
188.1	6.42	193.1	489900	9/25/92	21	5	25.8784722
187.9	6.05	190.0	490500	9/25/92	21	15	25.8854167
187.9	5.63	189.7	491100	9/25/92	21	25	25.8923611
187.9	5.23	189.0	491700	9/25/92	21	35	25.8993056
187.9	4.77	187.9	492300	9/25/92	21	45	25.90625
188.3	4.37	185.6	492900	9/25/92	21	55	25.9131944
188.3	3.97	185.7	493500	9/25/92	22	5	25.9201389
188.4	3.67	184.1	494100	9/25/92	22	15	25.9270833
188.1	3.37	182.2	494700	9/25/92	22	25	25.9340278
188.1	2.97	176.1	495300	9/25/92	22	35	25.9409722
187.9	2.75	168.1	495900	9/25/92	22	45	25.9479167
187.9	2.63	158.6	496500	9/25/92	22	55	25.9548611
187.8	2.40	153.0	497100	9/25/92	23	5	25.9618056
187.8	1.92	145.4	497700	9/25/92	23	15	25.96875
187.9	1.42	139.6	498300	9/25/92	23	25	25.9756944
188.3	1.17	133.8	498900	9/25/92	23	35	25.9826389
188.3	1.17	128.1	499500	9/25/92	23	45	25.9895833
188.4	1.28	110.9	500100	9/25/92	23	55	25.9965278
188.4	1.70	91.1	500700	9/26/92	0	5	26.0034722
188.4	2.13	82.8	501300	9/26/92	0	15	26.0104167
188.1	2.57	75.7	501900	9/26/92	0	25	26.0173611
188.1	2.90	68.4	502500	9/26/92	0	35	26.0243056
188.1	3.35	60.6	503100	9/26/92	0	45	26.03125
188.3	3.57	61.3	503700	9/26/92	0	55	26.0381944
188.3	3.42	63.6	504300	9/26/92	1	5	26.0451389
188.4	3.27	66.8	504900	9/26/92	1	15	26.0520833
188.4	3.38	68.1	505500	9/26/92	1	25	26.0590278
188.3	3.72	68.0	506100	9/26/92	1	35	26.0659722
188.1	3.67	65.9	506700	9/26/92	1	45	26.0729167

APPENDIX C cont.: CURRENT METER DATA FROM HORIZONTAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
188.1	3.47	61.4	507300	9/26/92	1	55	26.0798611
159.3	5.95	159.0	507900	9/26/92	2	5	26.0868056
101.4	14.37	199.5	508500	9/26/92	2	15	26.09375
43.6	22.28	170.6	509100	9/26/92	2	25	26.1006944
12.3	38.48	115.5	509700	9/26/92	2	35	26.1076389
7.8	42.62	119.1	510300	9/26/92	2	45	26.1145833
3.4	37.53	123.6	510900	9/26/92	2	55	26.1215278
1.1	20.95	244.7	511500	9/26/92	3	5	26.1284722

CURRENT METER DATA FROM VERTICAL ARRAY

Serial number: 00590856
Sampling interval (s): 300 Step Inc: 2 Run Inc: 6
Date of data block: 09/20/92
Time of data block: 05:00

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
0.9	37.18	13.5	115500	9/21/92	13	5	21.5451389
1.6	42.27	46.4	116100	9/21/92	13	15	21.5520833
2.2	51.78	76	116700	9/21/92	13	25	21.5590278
7.1	59.23	102.1	117300	9/21/92	13	35	21.5659722
13.0	65.83	109.5	117900	9/21/92	13	45	21.5729167
17.1	68.98	73.1	118500	9/21/92	13	55	21.5798611
23.9	64.13	351.8	119100	9/21/92	14	5	21.5868056
26.4	66.68	313.8	119700	9/21/92	14	15	21.59375
48.0	56.17	146.6	120300	9/21/92	14	25	21.6006944
62.3	43.68	122.4	120900	9/21/92	14	35	21.6076389
79.8	22.92	94.3	121500	9/21/92	14	45	21.6145833
79.4	12.37	48.5	122100	9/21/92	14	55	21.6215278
79.4	12.25	48.7	122700	9/21/92	15	5	21.6284722
79.3	12.85	49.7	123300	9/21/92	15	15	21.6354167
79.4	12.62	50.6	123900	9/21/92	15	25	21.6423611
79.4	12.67	51.3	124500	9/21/92	15	35	21.6493056
79.3	12.63	50.8	125100	9/21/92	15	45	21.65625
79.1	13.88	49.4	125700	9/21/92	15	55	21.6631944
79.1	15.22	48.7	126300	9/21/92	16	5	21.6701389
79.1	16.02	48.5	126900	9/21/92	16	15	21.6770833
79.1	15.17	49.2	127500	9/21/92	16	25	21.6840278
79.1	14.35	48.3	128100	9/21/92	16	35	21.6909722
79.1	13.35	46.6	128700	9/21/92	16	45	21.6979167
79.1	13.00	45.6	129300	9/21/92	16	55	21.7048611
79.4	12.67	44.3	129900	9/21/92	17	5	21.7118056
79.4	12.38	43.6	130500	9/21/92	17	15	21.71875
79.4	11.87	43.4	131100	9/21/92	17	25	21.7256944
79.3	11.40	45	131700	9/21/92	17	35	21.7326389
79.3	11.23	48.3	132300	9/21/92	17	45	21.7395833
79.4	11.30	50.2	132900	9/21/92	17	55	21.7465278
79.3	10.95	51	133500	9/21/92	18	5	21.7534722
79.3	10.28	50.8	134100	9/21/92	18	15	21.7604167
79.1	9.70	50.9	134700	9/21/92	18	25	21.7673611
79.1	9.35	48.1	135300	9/21/92	18	35	21.7743056
79.1	8.93	44.8	135900	9/21/92	18	45	21.78125
79.1	8.43	41.9	136500	9/21/92	18	55	21.7881944
79.1	8.07	38.2	137100	9/21/92	19	5	21.7951389
79.1	8.23	33.7	137700	9/21/92	19	15	21.8020833
79.1	8.57	30.4	138300	9/21/92	19	25	21.8090278

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.1	9.23	32.8	138900	9/21/92	19	35	21.8159722
79.3	9.37	36.2	139500	9/21/92	19	45	21.8229167
79.3	9.42	39.4	140100	9/21/92	19	55	21.8298611
79.3	9.73	39.8	140700	9/21/92	20	5	21.8368056
79.1	10.30	39.6	141300	9/21/92	20	15	21.84375
79.1	10.85	37.6	141900	9/21/92	20	25	21.8506944
79.3	11.08	34.7	142500	9/21/92	20	35	21.8576389
79.3	12.02	29.5	143100	9/21/92	20	45	21.8645833
79.4	12.63	26	143700	9/21/92	20	55	21.8715278
79.3	12.67	24.4	144300	9/21/92	21	5	21.8784722
79.3	11.80	24	144900	9/21/92	21	15	21.8854167
79.1	11.87	22.3	145500	9/21/92	21	25	21.8923611
79.1	12.38	19.2	146100	9/21/92	21	35	21.8993056
79.1	13.02	17.3	146700	9/21/92	21	45	21.90625
79.1	13.80	14.8	147300	9/21/92	21	55	21.9131944
79.1	14.03	13.7	147900	9/21/92	22	5	21.9201389
79.1	13.65	12.3	148500	9/21/92	22	15	21.9270833
79.1	12.22	11.4	149100	9/21/92	22	25	21.9340278
79.1	10.78	11.5	149700	9/21/92	22	35	21.9409722
79.1	9.92	10.4	150300	9/21/92	22	45	21.9479167
79.1	9.32	10.8	150900	9/21/92	22	55	21.9548611
79.1	9.58	8.5	151500	9/21/92	23	5	21.9618056
79.1	10.23	9.1	152100	9/21/92	23	15	21.96875
79.1	11.13	8.7	152700	9/21/92	23	25	21.9756944
79.3	11.23	9.5	153300	9/21/92	23	35	21.9826389
79.3	11.03	9.5	153900	9/21/92	23	45	21.9895833
79.9	10.53	9.7	154500	9/21/92	23	55	21.9965278
79.8	10.08	10.2	155100	9/22/92	0	5	22.0034722
79.8	9.90	9.6	155700	9/22/92	0	15	22.0104167
79.1	10.32	8.5	156300	9/22/92	0	25	22.0173611
79.1	11.03	6	156900	9/22/92	0	35	22.0243056
79.1	11.35	3.8	157500	9/22/92	0	45	22.03125
79.1	10.77	1.7	158100	9/22/92	0	55	22.0381944
79.3	9.80	0.3	158700	9/22/92	1	5	22.0451389
79.3	8.87	359.5	159300	9/22/92	1	15	22.0520833
79.3	8.37	358.8	159900	9/22/92	1	25	22.0590278
79.1	9.07	356.4	160500	9/22/92	1	35	22.0659722
79.3	9.67	355.4	161100	9/22/92	1	45	22.0729167
79.4	9.97	356.3	161700	9/22/92	1	55	22.0798611
79.4	9.53	359.3	162300	9/22/92	2	5	22.0868056
79.3	9.37	1.2	162900	9/22/92	2	15	22.09375
79.1	9.47	1.4	163500	9/22/92	2	25	22.1006944
79.3	9.40	0.4	164100	9/22/92	2	35	22.1076389
79.3	9.27	0.1	164700	9/22/92	2	45	22.1145833
79.3	9.37	1	165300	9/22/92	2	55	22.1215278
79.1	9.23	2.2	165900	9/22/92	3	5	22.1284722
79.1	9.03	0.8	166500	9/22/92	3	15	22.1354167
79.1	8.50	359.3	167100	9/22/92	3	25	22.1423611
79.1	8.37	358.6	167700	9/22/92	3	35	22.1493056
79.1	8.40	0.6	168300	9/22/92	3	45	22.15625
79.1	8.47	2.2	168900	9/22/92	3	55	22.1631944
79.1	7.97	4	169500	9/22/92	4	5	22.1701389
79.1	7.17	6.9	170100	9/22/92	4	15	22.1770833
79.1	6.67	7.4	170700	9/22/92	4	25	22.1840278
79.1	6.73	5.6	171300	9/22/92	4	35	22.1909722
79.1	6.45	6.5	171900	9/22/92	4	45	22.1979167
79.1	5.93	11.3	172500	9/22/92	4	55	22.2048611

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.3	5.15	20.2	173100	9/22/92	5	5	22.2118056
79.3	4.90	21.3	173700	9/22/92	5	15	22.21875
79.3	4.62	21	174300	9/22/92	5	25	22.2256944
79.1	4.33	25.7	174900	9/22/92	5	35	22.2326389
79.1	4.40	30.6	175500	9/22/92	5	45	22.2395833
79.1	4.32	37.2	176100	9/22/92	5	55	22.2465278
79.1	4.37	32.9	176700	9/22/92	6	5	22.2534722
79.1	4.12	33.5	177300	9/22/92	6	15	22.2604167
79.1	3.95	34.7	177900	9/22/92	6	25	22.2673611
79.1	3.77	42.1	178500	9/22/92	6	35	22.2743056
79.4	3.80	53.2	179100	9/22/92	6	45	22.28125
79.6	4.32	58.5	179700	9/22/92	6	55	22.2881944
79.6	5.17	61.7	180300	9/22/92	7	5	22.2951389
79.3	6.08	60.7	180900	9/22/92	7	15	22.3020833
79.1	6.67	60	181500	9/22/92	7	25	22.3090278
79.1	6.72	58.2	182100	9/22/92	7	35	22.3159722
79.3	6.25	57	182700	9/22/92	7	45	22.3229167
79.3	5.82	58.4	183300	9/22/92	7	55	22.3298611
79.3	5.68	59.5	183900	9/22/92	8	5	22.3368056
79.3	5.72	60.4	184500	9/22/92	8	15	22.34375
79.3	5.73	60.6	185100	9/22/92	8	25	22.3506944
79.3	5.78	60.9	185700	9/22/92	8	35	22.3576389
79.3	6.00	61	186300	9/22/92	8	45	22.3645833
79.3	6.25	60.8	186900	9/22/92	8	55	22.3715278
79.3	6.62	61.8	187500	9/22/92	9	5	22.3784722
79.1	7.02	63.5	188100	9/22/92	9	15	22.3854167
79.4	7.12	61.1	188700	9/22/92	9	25	22.3923611
79.6	6.62	56.3	189300	9/22/92	9	35	22.3993056
79.9	5.85	49.1	189900	9/22/92	9	45	22.40625
79.6	5.47	44.7	190500	9/22/92	9	55	22.4131944
79.4	5.62	44.2	191100	9/22/92	10	5	22.4201389
79.1	5.67	46.8	191700	9/22/92	10	15	22.4270833
79.3	5.50	50.1	192300	9/22/92	10	25	22.4340278
79.8	5.32	58.4	192900	9/22/92	10	35	22.4409722
79.8	5.38	62.9	193500	9/22/92	10	45	22.4479167
79.6	5.85	67.3	194100	9/22/92	10	55	22.4548611
79.4	6.20	68.6	194700	9/22/92	11	5	22.4618056
79.8	6.87	67.5	195300	9/22/92	11	15	22.46875
80.1	7.20	68.6	195900	9/22/92	11	25	22.4756944
79.8	7.50	65.3	196500	9/22/92	11	35	22.4826389
79.4	7.45	60.8	197100	9/22/92	11	45	22.4895833
79.1	7.55	54.9	197700	9/22/92	11	55	22.4965278
79.3	7.90	55.3	198300	9/22/92	12	5	22.5034722
79.4	8.32	58.9	198900	9/22/92	12	15	22.5104167
79.4	8.73	62.8	199500	9/22/92	12	25	22.5173611
79.6	9.18	63.3	200100	9/22/92	12	35	22.5243056
79.4	9.97	63.2	200700	9/22/92	12	45	22.53125
79.4	11.27	60.4	201300	9/22/92	12	55	22.5381944
79.3	12.68	56.8	201900	9/22/92	13	5	22.5451389
79.3	13.98	51.4	202500	9/22/92	13	15	22.5520833
79.3	14.77	46.4	203100	9/22/92	13	25	22.5590278
79.4	15.18	41.2	203700	9/22/92	13	35	22.5659722
79.4	14.97	37.9	204300	9/22/92	13	45	22.5729167
79.4	14.78	38	204900	9/22/92	13	55	22.5798611
79.3	14.62	42.1	205500	9/22/92	14	5	22.5868056
79.3	14.90	47.7	206100	9/22/92	14	15	22.59375
79.4	15.07	50.7	206700	9/22/92	14	25	22.6006944

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.3	15.32	50.3	207300	9/22/92	14	35	22.6076389
79.3	15.73	49.2	207900	9/22/92	14	45	22.6145833
79.1	16.30	47.8	208500	9/22/92	14	55	22.6215278
79.1	16.50	46.7	209100	9/22/92	15	5	22.6284722
79.1	16.23	45.3	209700	9/22/92	15	15	22.6354167
79.1	15.67	42.6	210300	9/22/92	15	25	22.6423611
79.4	14.60	38.5	210900	9/22/92	15	35	22.6493056
79.4	13.87	33.2	211500	9/22/92	15	45	22.65625
79.9	11.88	25.5	212100	9/22/92	15	55	22.6631944
79.6	11.70	8.8	212700	9/22/92	16	5	22.6701389
79.6	10.65	7	213300	9/22/92	16	15	22.6770833
79.3	10.93	17.1	213900	9/22/92	16	25	22.6840278
79.3	10.90	34.1	214500	9/22/92	16	35	22.6909722
79.3	12.47	36.5	215100	9/22/92	16	45	22.6979167
79.1	14.82	37.7	215700	9/22/92	16	55	22.7048611
79.1	16.15	39	216300	9/22/92	17	5	22.7118056
79.1	16.50	40.1	216900	9/22/92	17	15	22.71875
79.1	16.33	41.3	217500	9/22/92	17	25	22.7256944
79.1	16.60	40.8	218100	9/22/92	17	35	22.7326389
79.1	16.60	39.9	218700	9/22/92	17	45	22.7395833
79.1	16.17	39.5	219300	9/22/92	17	55	22.7465278
79.1	16.02	38.9	219900	9/22/92	18	5	22.7534722
79.1	16.37	39.7	220500	9/22/92	18	15	22.7604167
79.1	16.85	38.8	221100	9/22/92	18	25	22.7673611
79.3	16.27	39	221700	9/22/92	18	35	22.7743056
79.3	16.20	38.3	222300	9/22/92	18	45	22.78125
79.3	16.17	37.3	222900	9/22/92	18	55	22.7881944
79.1	16.65	35.3	223500	9/22/92	19	5	22.7951389
79.1	16.30	33.8	224100	9/22/92	19	15	22.8020833
79.1	16.53	33.1	224700	9/22/92	19	25	22.8090278
79.1	17.23	32.7	225300	9/22/92	19	35	22.8159722
79.1	18.35	29.9	225900	9/22/92	19	45	22.8229167
79.1	18.68	28.9	226500	9/22/92	19	55	22.8298611
79.3	18.63	29	227100	9/22/92	20	5	22.8368056
79.3	17.98	30.2	227700	9/22/92	20	15	22.84375
79.3	17.67	29.5	228300	9/22/92	20	25	22.8506944
79.1	17.42	27	228900	9/22/92	20	35	22.8576389
79.1	17.10	24	229500	9/22/92	20	45	22.8645833
79.1	16.25	21.1	230100	9/22/92	20	55	22.8715278
79.1	14.25	20.1	230700	9/22/92	21	5	22.8784722
79.1	12.55	21.2	231300	9/22/92	21	15	22.8854167
79.1	11.28	23.2	231900	9/22/92	21	25	22.8923611
79.1	11.02	23.3	232500	9/22/92	21	35	22.8993056
79.1	10.85	21.2	233100	9/22/92	21	45	22.90625
79.3	10.57	18.3	233700	9/22/92	21	55	22.9131944
79.3	10.05	15.6	234300	9/22/92	22	5	22.9201389
79.3	9.87	14.3	234900	9/22/92	22	15	22.9270833
79.1	9.80	13.6	235500	9/22/92	22	25	22.9340278
79.1	10.27	13.9	236100	9/22/92	22	35	22.9409722
79.1	10.67	14.9	236700	9/22/92	22	45	22.9479167
79.1	10.72	15.7	237300	9/22/92	22	55	22.9548611
79.1	11.50	14.7	237900	9/22/92	23	5	22.9618056
79.1	13.37	12.7	238500	9/22/92	23	15	22.96875
79.1	15.92	10.8	239100	9/22/92	23	25	22.9756944
79.3	17.55	9.8	239700	9/22/92	23	35	22.9826389
79.3	17.63	9.9	240300	9/22/92	23	45	22.9895833
79.3	16.87	11.6	240900	9/22/92	23	55	22.9965278

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.1	15.75	13.5	241500	9/23/92	0	5	23.0034722
79.1	15.08	14.6	242100	9/23/92	0	15	23.0104167
79.3	13.92	14.7	242700	9/23/92	0	25	23.0173611
79.3	12.95	14.2	243300	9/23/92	0	35	23.0243056
79.3	12.37	14.7	243900	9/23/92	0	45	23.03125
79.1	12.72	14.8	244500	9/23/92	0	55	23.0381944
79.1	14.12	16	245100	9/23/92	1	5	23.0451389
79.1	13.52	15.2	245700	9/23/92	1	15	23.0520833
79.1	13.12	14.9	246300	9/23/92	1	25	23.0590278
79.1	11.20	13.5	246900	9/23/92	1	35	23.0659722
79.1	10.87	13.7	247500	9/23/92	1	45	23.0729167
79.1	10.12	13	248100	9/23/92	1	55	23.0798611
79.3	9.45	13.8	248700	9/23/92	2	5	23.0868056
79.6	8.83	14.1	249300	9/23/92	2	15	23.09375
79.6	8.57	14.5	249900	9/23/92	2	25	23.1006944
79.6	8.28	14	250500	9/23/92	2	35	23.1076389
79.3	7.95	13.9	251100	9/23/92	2	45	23.1145833
79.4	7.17	13.3	251700	9/23/92	2	55	23.1215278
79.3	6.57	13.6	252300	9/23/92	3	5	23.1284722
79.3	6.00	15	252900	9/23/92	3	15	23.1354167
79.3	5.43	19.6	253500	9/23/92	3	25	23.1423611
79.3	5.48	25.4	254100	9/23/92	3	35	23.1493056
79.3	5.15	27.2	254700	9/23/92	3	45	23.15625
79.1	5.03	30.4	255300	9/23/92	3	55	23.1631944
79.3	4.43	32.1	255900	9/23/92	4	5	23.1701389
79.3	4.08	39	256500	9/23/92	4	15	23.1770833
79.4	3.93	47	257100	9/23/92	4	25	23.1840278
79.3	4.22	51.6	257700	9/23/92	4	35	23.1909722
79.3	4.68	49	258300	9/23/92	4	45	23.1979167
79.3	5.22	37.6	258900	9/23/92	4	55	23.2048611
79.3	5.53	27.9	259500	9/23/92	5	5	23.2118056
79.3	5.57	26.1	260100	9/23/92	5	15	23.21875
79.1	5.48	32.7	260700	9/23/92	5	25	23.2256944
79.1	5.28	37.3	261300	9/23/92	5	35	23.2326389
79.1	4.93	40.8	261900	9/23/92	5	45	23.2395833
79.1	4.77	41	262500	9/23/92	5	55	23.2465278
79.1	4.90	50.2	263100	9/23/92	6	5	23.2534722
79.1	5.37	55.4	263700	9/23/92	6	15	23.2604167
79.1	5.72	57.6	264300	9/23/92	6	25	23.2673611
79.3	6.07	58.9	264900	9/23/92	6	35	23.2743056
79.3	6.47	61.9	265500	9/23/92	6	45	23.28125
79.4	6.72	66.7	266100	9/23/92	6	55	23.2881944
79.3	6.97	69.6	266700	9/23/92	7	5	23.2951389
79.3	7.27	71.3	267300	9/23/92	7	15	23.3020833
79.1	7.63	72.5	267900	9/23/92	7	25	23.3090278
79.1	7.85	71.5	268500	9/23/92	7	35	23.3159722
79.1	7.80	69.8	269100	9/23/92	7	45	23.3229167
79.1	7.73	67.8	269700	9/23/92	7	55	23.3298611
79.1	7.07	62.7	270300	9/23/92	8	5	23.3368056
79.1	6.40	53.5	270900	9/23/92	8	15	23.34375
79.1	6.00	46.7	271500	9/23/92	8	25	23.3506944
79.1	6.12	43.9	272100	9/23/92	8	35	23.3576389
79.1	6.65	45.4	272700	9/23/92	8	45	23.3645833
79.1	6.90	41.8	273300	9/23/92	8	55	23.3715278
79.3	7.07	42.5	273900	9/23/92	9	5	23.3784722
79.3	6.57	44.3	274500	9/23/92	9	15	23.3854167
79.3	6.47	48.1	275100	9/23/92	9	25	23.3923611

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.1	6.78	51.9	275700	9/23/92	9	35	23.3993056
79.1	7.28	51.6	276300	9/23/92	9	45	23.40625
79.3	7.63	48.7	276900	9/23/92	9	55	23.4131944
79.3	7.70	44.1	277500	9/23/92	10	5	23.4201389
79.3	8.02	40.1	278100	9/23/92	10	15	23.4270833
79.1	8.15	39	278700	9/23/92	10	25	23.4340278
79.1	8.43	35.3	279300	9/23/92	10	35	23.4409722
79.1	8.68	32.1	279900	9/23/92	10	45	23.4479167
79.1	8.88	29.8	280500	9/23/92	10	55	23.4548611
79.1	8.88	27.6	281100	9/23/92	11	5	23.4618056
79.1	9.18	23.9	281700	9/23/92	11	15	23.46875
79.1	9.65	16.2	282300	9/23/92	11	25	23.4756944
79.3	10.20	9.6	282900	9/23/92	11	35	23.4826389
79.3	10.20	5	283500	9/23/92	11	45	23.4895833
79.3	10.30	2.9	284100	9/23/92	11	55	23.4965278
79.1	10.40	2	284700	9/23/92	12	5	23.5034722
79.3	10.57	1.6	285300	9/23/92	12	15	23.5104167
79.4	10.23	4.1	285900	9/23/92	12	25	23.5173611
79.4	9.75	6.4	286500	9/23/92	12	35	23.5243056
79.3	9.28	5.9	287100	9/23/92	12	45	23.53125
79.1	9.15	0.8	287700	9/23/92	12	55	23.5381944
79.1	8.77	355.8	288300	9/23/92	13	5	23.5451389
79.3	8.17	352.5	288900	9/23/92	13	15	23.5520833
79.3	7.38	351.2	289500	9/23/92	13	25	23.5590278
79.3	6.68	351.7	290100	9/23/92	13	35	23.5659722
79.1	6.12	354	290700	9/23/92	13	45	23.5729167
79.3	5.53	357.2	291300	9/23/92	13	55	23.5798611
79.3	5.20	358.1	291900	9/23/92	14	5	23.5868056
79.3	4.77	355.9	292500	9/23/92	14	15	23.59375
79.1	4.47	355.7	293100	9/23/92	14	25	23.6006944
79.1	4.30	358.2	293700	9/23/92	14	35	23.6076389
79.1	4.73	1.6	294300	9/23/92	14	45	23.6145833
79.6	4.98	5.3	294900	9/23/92	14	55	23.6215278
79.6	5.28	13.2	295500	9/23/92	15	5	23.6284722
79.6	4.70	22	296100	9/23/92	15	15	23.6354167
79.1	4.00	30.1	296700	9/23/92	15	25	23.6423611
79.3	3.18	34.5	297300	9/23/92	15	35	23.6493056
79.3	3.03	39.7	297900	9/23/92	15	45	23.65625
79.3	3.32	48.7	298500	9/23/92	15	55	23.6631944
79.1	3.73	58.5	299100	9/23/92	16	5	23.6701389
79.1	3.93	61.9	299700	9/23/92	16	15	23.6770833
79.1	4.17	58.3	300300	9/23/92	16	25	23.6840278
79.1	4.18	55.3	300900	9/23/92	16	35	23.6909722
79.1	4.35	61.4	301500	9/23/92	16	45	23.6979167
79.1	4.50	70	302100	9/23/92	16	55	23.7048611
79.3	4.82	79.3	302700	9/23/92	17	5	23.7118056
79.3	5.05	85.8	303300	9/23/92	17	15	23.71875
79.4	5.37	90.7	303900	9/23/92	17	25	23.7256944
79.3	5.65	91.6	304500	9/23/92	17	35	23.7326389
79.3	6.38	86.1	305100	9/23/92	17	45	23.7395833
79.1	6.98	80.4	305700	9/23/92	17	55	23.7465278
79.1	7.60	76.6	306300	9/23/92	18	5	23.7534722
79.1	7.62	76.9	306900	9/23/92	18	15	23.7604167
79.1	7.55	79.3	307500	9/23/92	18	25	23.7673611
79.1	7.38	82.5	308100	9/23/92	18	35	23.7743056
79.1	7.57	83.9	308700	9/23/92	18	45	23.78125
79.1	8.08	83.8	309300	9/23/92	18	55	23.7881944
79.1	8.68	83.4	309900	9/23/92	19	5	23.7951389

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.1	9.08	82.2	310500	9/23/92	19	15	23.8020833
79.1	9.10	81.3	311100	9/23/92	19	25	23.8090278
79.1	9.20	78.1	311700	9/23/92	19	35	23.8159722
79.1	9.03	75.2	312300	9/23/92	19	45	23.8229167
79.1	8.67	74.8	312900	9/23/92	19	55	23.8298611
79.1	8.27	75.1	313500	9/23/92	20	5	23.8368056
79.3	8.25	75.8	314100	9/23/92	20	15	23.84375
79.4	8.33	73.1	314700	9/23/92	20	25	23.8506944
79.4	8.57	73.1	315300	9/23/92	20	35	23.8576389
79.4	9.03	73.7	315900	9/23/92	20	45	23.8645833
79.4	9.25	73.9	316500	9/23/92	20	55	23.8715278
79.6	9.45	72	317100	9/23/92	21	5	23.8784722
79.4	9.17	69	317700	9/23/92	21	15	23.8854167
79.3	9.33	68	318300	9/23/92	21	25	23.8923611
79.1	9.05	68.7	318900	9/23/92	21	35	23.8993056
79.1	8.95	69.6	319500	9/23/92	21	45	23.90625
79.1	8.53	68.3	320100	9/23/92	21	55	23.9131944
79.1	8.00	63	320700	9/23/92	22	5	23.9201389
79.1	7.42	54.3	321300	9/23/92	22	15	23.9270833
79.1	7.10	44.4	321900	9/23/92	22	25	23.9340278
79.3	6.93	39.9	322500	9/23/92	22	35	23.9409722
79.3	6.90	38.9	323100	9/23/92	22	45	23.9479167
79.3	6.92	39.5	323700	9/23/92	22	55	23.9548611
79.1	7.30	38.7	324300	9/23/92	23	5	23.9618056
79.1	7.83	38.8	324900	9/23/92	23	15	23.96875
79.1	8.37	37.4	325500	9/23/92	23	25	23.9756944
79.1	8.87	34.7	326100	9/23/92	23	35	23.9826389
79.1	9.28	33.1	326700	9/23/92	23	45	23.9895833
79.1	9.55	30.1	327300	9/23/92	23	55	23.9965278
79.1	9.43	25.2	327900	9/24/92	0	5	24.0034722
79.3	9.32	16.8	328500	9/24/92	0	15	24.0104167
79.3	9.33	11.5	329100	9/24/92	0	25	24.0173611
79.3	9.42	9.7	329700	9/24/92	0	35	24.0243056
79.1	9.42	10.1	330300	9/24/92	0	45	24.03125
79.3	9.38	11.2	330900	9/24/92	0	55	24.0381944
79.4	9.45	12.3	331500	9/24/92	1	5	24.0451389
79.4	9.35	13.3	332100	9/24/92	1	15	24.0520833
79.3	9.17	13.3	332700	9/24/92	1	25	24.0590278
79.1	9.07	14.3	333300	9/24/92	1	35	24.0659722
79.1	9.25	14.9	333900	9/24/92	1	45	24.0729167
79.1	9.42	13.4	334500	9/24/92	1	55	24.079861
79.1	9.52	11.5	335100	9/24/92	2	5	24.0868056
79.1	9.17	10	335700	9/24/92	2	15	24.09375
79.1	8.62	13.6	336300	9/24/92	2	25	24.1006944
79.3	8.20	18.4	336900	9/24/92	2	35	24.1076389
79.3	8.20	21.5	337500	9/24/92	2	45	24.1145833
79.4	8.53	25	338100	9/24/92	2	55	24.1215278
79.3	8.80	27.1	338700	9/24/92	3	5	24.1284722
79.4	8.85	30.8	339300	9/24/92	3	15	24.1354167
79.3	8.97	31.6	339900	9/24/92	3	25	24.1423611
79.3	9.35	32.3	340500	9/24/92	3	35	24.1493056
79.1	9.75	32.5	341100	9/24/92	3	45	24.15625
79.1	10.17	31.2	341700	9/24/92	3	55	24.1631944
79.1	10.47	29.6	342300	9/24/92	4	5	24.1701389
79.1	10.75	28.7	342900	9/24/92	4	15	24.1770833
79.3	11.05	27	343500	9/24/92	4	25	24.1840278
79.3	11.05	23.1	344100	9/24/92	4	35	24.1909722
79.3	11.27	15.8	344700	9/24/92	4	45	24.1979167

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.1	11.22	10.4	345300	9/24/92	4	55	24.2048611
79.1	10.92	7.3	345900	9/24/92	5	5	24.2118056
79.1	9.95	6.5	346500	9/24/92	5	15	24.21875
79.1	8.70	8.3	347100	9/24/92	5	25	24.2256944
79.1	7.38	13	347700	9/24/92	5	35	24.2326389
79.1	6.37	17.8	348300	9/24/92	5	45	24.2395833
79.1	5.68	18.6	348900	9/24/92	5	55	24.2465278
79.1	5.17	14.8	349500	9/24/92	6	5	24.2534722
79.1	4.78	9.5	350100	9/24/92	6	15	24.2604167
79.1	4.33	6.1	350700	9/24/92	6	25	24.2673611
79.1	4.13	4.6	351300	9/24/92	6	35	24.2743056
79.3	3.87	5.9	351900	9/24/92	6	45	24.28125
79.3	3.77	7	352500	9/24/92	6	55	24.2881944
79.3	3.72	9.7	353100	9/24/92	7	5	24.2951389
79.3	3.85	12.3	353700	9/24/92	7	15	24.3020833
79.4	3.87	14.2	354300	9/24/92	7	25	24.3090278
79.4	3.83	13.9	354900	9/24/92	7	35	24.3159722
79.3	3.67	11.9	355500	9/24/92	7	45	24.3229167
79.1	3.72	9.7	356100	9/24/92	7	55	24.3298611
79.1	3.90	8.7	356700	9/24/92	8	5	24.3368056
79.3	4.17	4.5	357300	9/24/92	8	15	24.34375
79.3	4.67	0.4	357900	9/24/92	8	25	24.3506944
79.3	5.23	355.2	358500	9/24/92	8	35	24.3576389
79.3	5.70	356.6	359100	9/24/92	8	45	24.3645833
79.4	5.52	354.8	359700	9/24/92	8	55	24.3715278
79.4	4.62	352.5	360300	9/24/92	9	5	24.3784722
79.3	3.85	346	360900	9/24/92	9	15	24.3854167
79.1	3.10	342.7	361500	9/24/92	9	25	24.3923611
79.1	3.17	341.1	362100	9/24/92	9	35	24.3993056
79.1	3.48	335.3	362700	9/24/92	9	45	24.40625
79.1	3.83	329.4	363300	9/24/92	9	55	24.4131944
79.1	4.08	322.2	363900	9/24/92	10	5	24.4201389
79.1	4.20	315	364500	9/24/92	10	15	24.4270833
79.1	4.45	310.7	365100	9/24/92	10	25	24.4340278
79.1	4.48	306	365700	9/24/92	10	35	24.4409722
79.1	4.32	302.8	366300	9/24/92	10	45	24.4479167
79.3	4.00	302.9	366900	9/24/92	10	55	24.4548611
79.3	4.32	305.6	367500	9/24/92	11	5	24.4618056
79.3	4.63	311.8	368100	9/24/92	11	15	24.46875
79.4	5.25	317	368700	9/24/92	11	25	24.4756944
79.4	5.52	322.8	369300	9/24/92	11	35	24.4826389
79.4	5.95	323.1	369900	9/24/92	11	45	24.4895833
79.3	6.27	323.4	370500	9/24/92	11	55	24.4965278
79.3	6.22	323.9	371100	9/24/92	12	5	24.5034722
79.6	5.97	322.9	371700	9/24/92	12	15	24.5104167
79.6	5.63	315.7	372300	9/24/92	12	25	24.5173611
79.6	5.75	303.3	372900	9/24/92	12	35	24.5243056
79.4	6.03	293.7	373500	9/24/92	12	45	24.53125
79.3	6.22	291.2	374100	9/24/92	12	55	24.5381944
79.6	6.08	290.4	374700	9/24/92	13	5	24.5451389
79.4	5.82	292.7	375300	9/24/92	13	15	24.5520833
79.4	5.62	291.4	375900	9/24/92	13	25	24.5590278
79.1	5.35	289.2	376500	9/24/92	13	35	24.5659722
79.4	5.10	282.8	377100	9/24/92	13	45	24.5729167
79.9	4.97	278.4	377700	9/24/92	13	55	24.5798611
80.3	4.77	275.9	378300	9/24/92	14	5	24.5868056
79.9	4.57	273.3	378900	9/24/92	14	15	24.59375

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.9	4.47	270	379500	9/24/92	14	25	24.6006944
79.8	4.13	269.5	380100	9/24/92	14	35	24.6076389
80.1	3.80	267.4	380700	9/24/92	14	45	24.6145833
79.6	3.47	256.7	381300	9/24/92	14	55	24.6215278
79.4	3.68	236.4	381900	9/24/92	15	5	24.6284722
79.1	3.88	222.9	382500	9/24/92	15	15	24.6354167
79.1	4.13	214.2	383100	9/24/92	15	25	24.6423611
79.1	4.23	206.3	383700	9/24/92	15	35	24.6493056
79.4	4.57	196.1	384300	9/24/92	15	45	24.65625
80.1	4.52	186.3	384900	9/24/92	15	55	24.6631944
80.3	4.77	180.4	385500	9/24/92	16	5	24.6701389
79.9	5.00	174.6	386100	9/24/92	16	15	24.6770833
79.3	5.37	172.9	386700	9/24/92	16	25	24.6840278
79.1	5.47	168.1	387300	9/24/92	16	35	24.6909722
79.3	5.60	165.9	387900	9/24/92	16	45	24.6979167
79.3	5.93	159.9	388500	9/24/92	16	55	24.7048611
79.3	6.42	150.5	389100	9/24/92	17	5	24.7118056
79.1	6.83	139.1	389700	9/24/92	17	15	24.71875
79.1	7.48	131.4	390300	9/24/92	17	25	24.7256944
79.1	8.03	127.7	390900	9/24/92	17	35	24.7326389
79.1	8.93	122.5	391500	9/24/92	17	45	24.7395833
79.1	10.08	117.5	392100	9/24/92	17	55	24.7465278
79.1	11.15	111.3	392700	9/24/92	18	5	24.7534722
79.1	11.78	108	393300	9/24/92	18	15	24.7604167
79.1	11.95	104.1	393900	9/24/92	18	25	24.7673611
79.3	11.68	99.7	394500	9/24/92	18	35	24.7743056
79.3	11.23	93	395100	9/24/92	18	45	24.78125
79.3	10.80	85.5	395700	9/24/92	18	55	24.7881944
79.1	10.73	81.8	396300	9/24/92	19	5	24.7951389
79.1	11.22	79.4	396900	9/24/92	19	15	24.8020833
79.1	11.83	77.8	397500	9/24/92	19	25	24.8090278
79.1	12.13	76.2	398100	9/24/92	19	35	24.8159722
79.1	12.12	74.4	398700	9/24/92	19	45	24.8229167
79.1	11.87	73	399300	9/24/92	19	55	24.8298611
79.1	11.58	72.1	399900	9/24/92	20	5	24.8368056
79.1	11.17	72.5	400500	9/24/92	20	15	24.84375
79.3	10.93	73.2	401100	9/24/92	20	25	24.8506944
79.3	10.78	72.4	401700	9/24/92	20	35	24.8576389
79.4	10.57	70.1	402300	9/24/92	20	45	24.8645833
79.3	10.10	66.9	402900	9/24/92	20	55	24.8715278
79.3	10.18	64.5	403500	9/24/92	21	5	24.8784722
79.1	10.25	62	404100	9/24/92	21	15	24.8854167
79.1	10.53	58.1	404700	9/24/92	21	25	24.8923611
79.1	10.23	52.9	405300	9/24/92	21	35	24.8993056
79.1	10.38	46.9	405900	9/24/92	21	45	24.90625
79.3	10.93	42.6	406500	9/24/92	21	55	24.9131944
79.3	11.18	41.1	407100	9/24/92	22	5	24.9201389
79.3	11.07	42.2	407700	9/24/92	22	15	24.9270833
79.1	10.43	41.3	408300	9/24/92	22	25	24.9340278
79.1	10.30	37.6	408900	9/24/92	22	35	24.9409722
79.1	10.15	30.9	409500	9/24/92	22	45	24.9479167
79.1	9.95	24.2	410100	9/24/92	22	55	24.9548611
79.1	10.12	17.2	410700	9/24/92	23	5	24.9618056
79.1	10.30	10.6	411300	9/24/92	23	15	24.96875
79.1	10.57	5.6	411900	9/24/92	23	25	24.9756944
79.1	10.77	1.5	412500	9/24/92	23	35	24.9826389
79.3	11.10	0	413100	9/24/92	23	45	24.9895833

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.3	11.82	359	413700	9/24/92	23	55	24.9965278
79.3	13.87	354.4	414300	9/25/92	0	5	25.0034722
79.1	16.03	348.5	414900	9/25/92	0	15	25.0104167
79.3	18.37	342.3	415500	9/25/92	0	25	25.0173611
79.3	19.60	338.3	416100	9/25/92	0	35	25.0243056
79.3	20.63	336	416700	9/25/92	0	45	25.03125
79.1	20.60	333.9	417300	9/25/92	0	55	25.0381944
79.1	19.27	333.5	417900	9/25/92	1	5	25.0451389
79.4	17.65	332.3	418500	9/25/92	1	15	25.0520833
79.4	16.10	329.7	419100	9/25/92	1	25	25.0590278
79.4	15.10	325.1	419700	9/25/92	1	35	25.0659722
79.3	14.10	320.7	420300	9/25/92	1	45	25.0729167
79.4	13.77	319.5	420900	9/25/92	1	55	25.0798611
79.4	14.48	320.6	421500	9/25/92	2	5	25.0868056
79.3	16.18	319.9	422100	9/25/92	2	15	25.09375
79.1	17.37	318.2	422700	9/25/92	2	25	25.1006944
79.1	17.87	316.2	423300	9/25/92	2	35	25.1076389
79.3	17.60	315.9	423900	9/25/92	2	45	25.1145833
79.3	17.18	316.1	424500	9/25/92	2	55	25.1215278
79.3	16.25	315	425100	9/25/92	3	5	25.1284722
79.1	14.98	313.8	425700	9/25/92	3	15	25.1354167
79.1	13.85	313.7	426300	9/25/92	3	25	25.1423611
79.1	13.70	313.9	426900	9/25/92	3	35	25.1493056
79.1	13.12	312.4	427500	9/25/92	3	45	25.15625
79.1	11.33	309.3	428100	9/25/92	3	55	25.1631944
79.1	9.08	303.6	428700	9/25/92	4	5	25.1701389
79.1	7.52	300.8	429300	9/25/92	4	15	25.1770833
79.1	7.45	300.5	429900	9/25/92	4	25	25.1840278
79.1	7.12	301.8	430500	9/25/92	4	35	25.1909722
79.1	6.78	299.3	431100	9/25/92	4	45	25.1979167
79.1	6.00	300.6	431700	9/25/92	4	55	25.2048611
79.1	5.45	301.7	432300	9/25/92	5	5	25.2118056
79.1	5.05	304.5	432900	9/25/92	5	15	25.21875
79.1	5.07	302.9	433500	9/25/92	5	25	25.2256944
79.1	4.80	303.4	434100	9/25/92	5	35	25.2326389
79.3	4.67	304.9	434700	9/25/92	5	45	25.2395833
79.3	4.47	307.4	435300	9/25/92	5	55	25.2465278
79.3	4.60	308.8	435900	9/25/92	6	5	25.2534722
79.3	4.80	312.4	436500	9/25/92	6	15	25.2604167
79.3	5.33	311.4	437100	9/25/92	6	25	25.2673611
79.4	5.53	308.4	437700	9/25/92	6	35	25.2743056
79.3	5.87	303.5	438300	9/25/92	6	45	25.28125
79.3	6.13	301.5	438900	9/25/92	6	55	25.2881944
79.1	6.85	306.4	439500	9/25/92	7	5	25.2951389
79.1	7.68	312	440100	9/25/92	7	15	25.3020833
79.1	8.62	314.2	440700	9/25/92	7	25	25.3090278
79.1	9.57	310.9	441300	9/25/92	7	35	25.3159722
79.1	9.90	306.5	441900	9/25/92	7	45	25.3229167
79.1	9.95	302.9	442500	9/25/92	7	55	25.3298611
79.1	9.75	299.8	443100	9/25/92	8	5	25.3368056
79.1	9.27	298	443700	9/25/92	8	15	25.34375
79.1	8.63	295.9	444300	9/25/92	8	25	25.3506944
79.1	7.57	295.4	444900	9/25/92	8	35	25.3576389
79.1	6.82	292	445500	9/25/92	8	45	25.3645833
79.1	5.88	289.1	446100	9/25/92	8	55	25.3715278
79.1	5.38	284.6	446700	9/25/92	9	5	25.3784722
79.1	5.02	282.5	447300	9/25/92	9	15	25.3854167

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.1	5.28	279.3	447900	9/25/92	9	25	25.3923611
79.1	5.63	276	448500	9/25/92	9	35	25.3993056
79.1	6.00	272.8	449100	9/25/92	9	45	25.40625
79.1	6.00	270.3	449700	9/25/92	9	55	25.4131944
79.1	5.27	270.3	450300	9/25/92	10	5	25.4201389
79.3	4.50	271.2	450900	9/25/92	10	15	25.4270833
79.3	3.77	273	451500	9/25/92	10	25	25.4340278
79.4	3.53	272.7	452100	9/25/92	10	35	25.4409722
79.3	3.07	268.1	452700	9/25/92	10	45	25.4479167
79.4	2.52	251	453300	9/25/92	10	55	25.4548611
79.3	2.27	222.3	453900	9/25/92	11	5	25.4618056
79.3	2.30	196.2	454500	9/25/92	11	15	25.46875
79.1	2.35	188.9	455100	9/25/92	11	25	25.4756944
79.1	2.27	190.9	455700	9/25/92	11	35	25.4826389
79.1	2.02	196	456300	9/25/92	11	45	25.4895833
79.1	1.77	199.4	456900	9/25/92	11	55	25.4965278
79.1	1.53	192.5	457500	9/25/92	12	5	25.5034722
79.1	1.20	198.4	458100	9/25/92	12	15	25.5104167
79.3	0.82	192.8	458700	9/25/92	12	25	25.5173611
79.3	0.42	206.5	459300	9/25/92	12	35	25.5243056
79.3	0.30	63.4	459900	9/25/92	12	45	25.53125
79.1	0.67	3.1	460500	9/25/92	12	55	25.5381944
79.1	1.47	357.3	461100	9/25/92	13	5	25.5451389
79.1	2.58	351.1	461700	9/25/92	13	15	25.5520833
79.4	3.35	346.9	462300	9/25/92	13	25	25.5590278
79.8	3.97	342.6	462900	9/25/92	13	35	25.5659722
79.8	4.27	339.5	463500	9/25/92	13	45	25.5729167
80.1	4.50	336	464100	9/25/92	13	55	25.5798611
79.8	4.60	333.6	464700	9/25/92	14	5	25.5868056
80.1	4.77	332.9	465300	9/25/92	14	15	25.59375
79.4	4.90	330.1	465900	9/25/92	14	25	25.6006944
79.4	4.80	327	466500	9/25/92	14	35	25.6076389
79.4	4.57	325.6	467100	9/25/92	14	45	25.6145833
79.4	4.52	329.1	467700	9/25/92	14	55	25.6215278
79.6	4.52	335.6	468300	9/25/92	15	5	25.6284722
79.6	4.23	338.4	468900	9/25/92	15	15	25.6354167
79.8	3.75	345.1	469500	9/25/92	15	25	25.6423611
79.6	4.07	355.7	470100	9/25/92	15	35	25.6493056
79.3	4.78	7.6	470700	9/25/92	15	45	25.65625
79.3	5.43	11.2	471300	9/25/92	15	55	25.6631944
79.3	5.30	9.7	471900	9/25/92	16	5	25.6701389
79.6	4.48	5.1	472500	9/25/92	16	15	25.6770833
79.8	4.47	3.4	473100	9/25/92	16	25	25.6840278
80.3	4.62	7	473700	9/25/92	16	35	25.6909722
80.4	5.05	12.9	474300	9/25/92	16	45	25.6979167
80.1	4.63	18.8	474900	9/25/92	16	55	25.7048611
79.6	4.18	22.7	475500	9/25/92	17	5	25.7118056
79.6	3.85	23.7	476100	9/25/92	17	15	25.71875
79.6	4.32	24.9	476700	9/25/92	17	25	25.7256944
79.6	4.55	25.4	477300	9/25/92	17	35	25.7326389
79.3	5.25	31.9	477900	9/25/92	17	45	25.7395833
79.3	5.45	38.4	478500	9/25/92	17	55	25.7465278
79.3	6.15	49.3	479100	9/25/92	18	5	25.7534722
79.3	6.58	57.4	479700	9/25/92	18	15	25.7604167
79.3	7.20	62.6	480300	9/25/92	18	25	25.7673611
79.3	7.27	64.7	480900	9/25/92	18	35	25.7743056
79.3	7.52	61.8	481500	9/25/92	18	45	25.78125

APPENDIX C cont.: CURRENT METER DATA FROM VERTICAL ARRAY

Depth (m)	Speed (cm/s)	Dir (°M)	Elapsed time (s)	Date	Hour	Min	Day.decimal day
79.3	7.48	60.4	482100	9/25/92	18	55	25.7881944
79.3	7.68	60.9	482700	9/25/92	19	5	25.7951389
79.1	7.77	61.6	483300	9/25/92	19	15	25.8020833
79.1	8.10	59.9	483900	9/25/92	19	25	25.8090278
79.1	8.15	56.1	484500	9/25/92	19	35	25.8159722
79.1	8.28	53.9	485100	9/25/92	19	45	25.8229167
79.1	8.43	52.1	485700	9/25/92	19	55	25.8298611
79.1	8.75	46.8	486300	9/25/92	20	5	25.8368056
79.1	8.88	41.9	486900	9/25/92	20	15	25.84375
79.3	8.82	37	487500	9/25/92	20	25	25.8506944
79.3	8.73	36.3	488100	9/25/92	20	35	25.8576389
79.3	8.75	33.5	488700	9/25/92	20	45	25.8645833
79.1	8.80	32.2	489300	9/25/92	20	55	25.8715278
79.1	8.82	32.2	489900	9/25/92	21	5	25.8784722
79.1	8.30	32.9	490500	9/25/92	21	15	25.8854167
79.1	8.00	39.7	491100	9/25/92	21	25	25.8923611
79.4	8.55	48.1	491700	9/25/92	21	35	25.8993056
54.2	11.60	8.4	492300	9/25/92	21	45	25.90625
28.8	17.43	311.6	492900	9/25/92	21	55	25.9131944
2.7	22.57	289.5	493500	9/25/92	22	5	25.9201389
1.8	28.28	300.7	494100	9/25/92	22	15	25.9270833

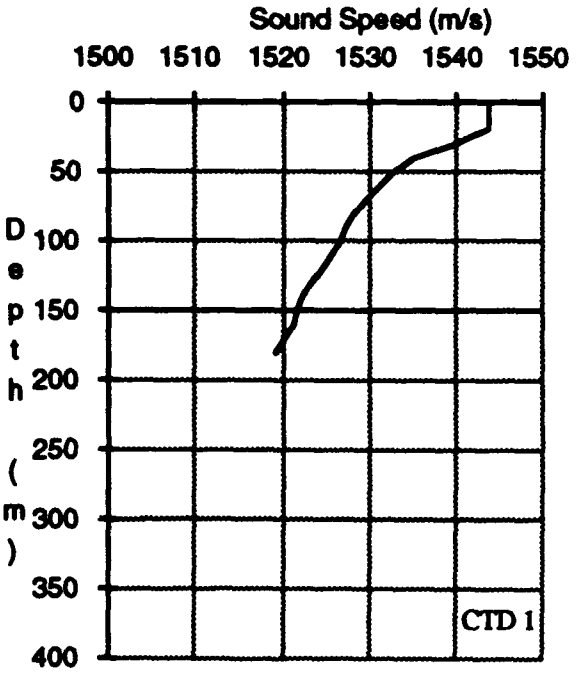
APPENDIX D: CTD, XBT, and AXBT TABULATIONS AND SOUND SPEED PLOTS

The tabulations that follow are available on disk as tab delimitted ASCII files and can be read format free. All latitudes are positive indicating north and longitudes are negative indicating west in conformance with Navy-standard databases. The format for all the following tabulations is as follows:

LINE 1: Lat(degrees.decimal deg) Lon (degrees.decimal deg) YrMoDay HourMinSec
LINE 2: Instrument(330000=CTD,110000=XBT,120000=AXBT)
# of Data Lines # of parameters Platform cast #
LINE 3: Cast depth Bottom depth Cruise Vessel
LINES 4-END: Depth(m) Temperature (°C) Salinity (PSU) Sound Speed (m/s)

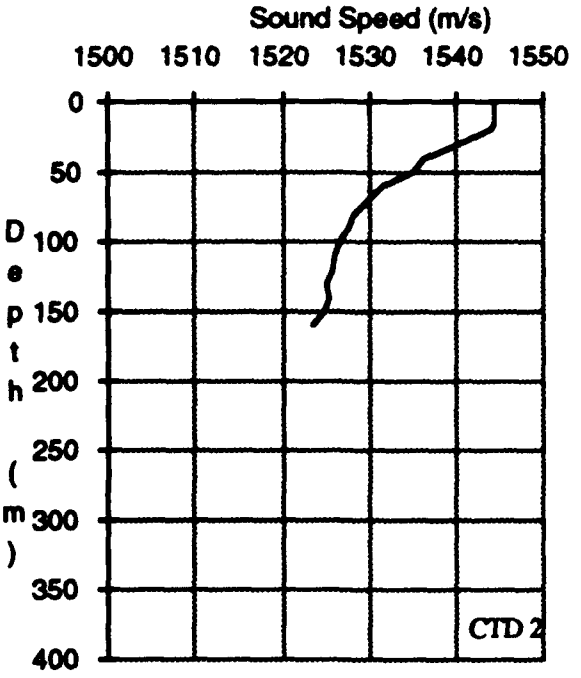
CTD 1

28.3849	-85.2994	920920	152000
330000	20	4	1
180.0	187	ACT I	R/V 1
0.	28.67	35.79	1543.88
5.	28.54	35.80	1543.72
10.	28.51	35.80	1543.72
15.	28.48	35.83	1543.77
20.	28.37	35.90	1543.70
30.	26.17	36.39	1539.57
40.	24.22	36.35	1535.14
50.	23.18	36.51	1532.96
60.	22.38	36.62	1531.24
70.	21.70	36.73	1529.81
80.	21.04	36.75	1528.27
90.	20.64	36.70	1527.34
100.	20.29	36.71	1526.56
110.	19.90	36.68	1525.64
120.	19.46	36.61	1524.51
130.	18.99	36.58	1523.32
140.	18.59	36.50	1522.28
150.	18.32	36.49	1521.65
160.	18.14	36.46	1521.26
180.	17.41	36.33	1519.32



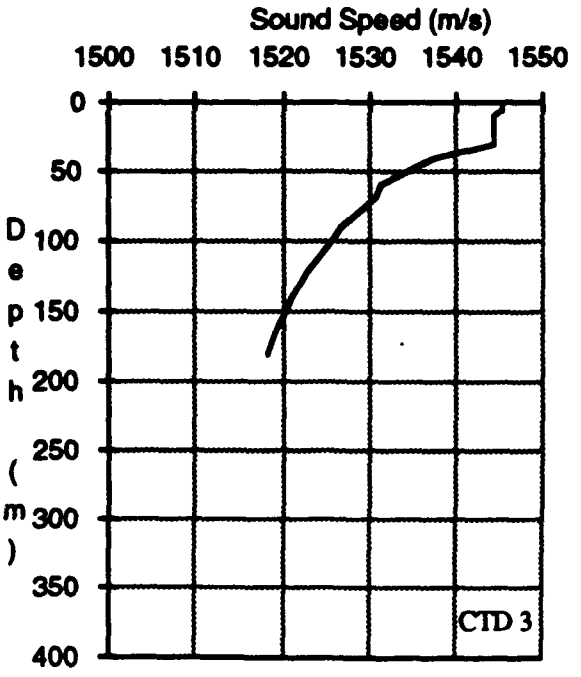
CTD 2

28.4633 330000 180.0	-85.2750 19 190	920921 4 ACT I	50700 2 R/V 1
0.	28.83	35.86	1544.30
5.	28.93	35.74	1544.46
10.	28.87	35.77	1544.46
15.	28.67	35.86	1544.21
20.	28.56	35.91	1544.11
30.	26.49	36.24	1540.11
40.	24.67	36.34	1536.21
50.	24.09	36.50	1535.16
60.	22.53	36.47	1531.46
70.	21.88	36.63	1530.14
80.	21.02	36.63	1528.08
90.	20.71	36.67	1527.47
100.	20.32	36.68	1526.62
110.	20.02	36.69	1525.97
120.	19.82	36.67	1525.57
130.	19.64	36.64	1525.20
140.	19.61	36.63	1525.26
150.	19.39	36.59	1524.80
160.	18.93	36.54	1523.65



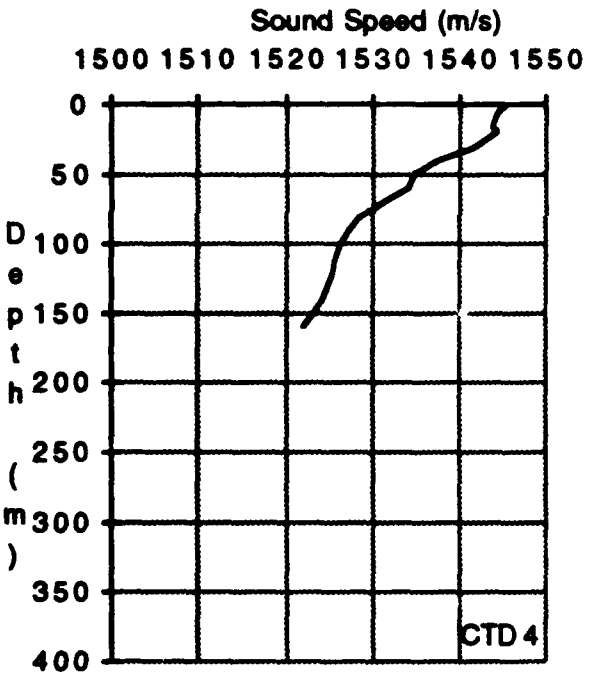
CTD 3

28.4053 330000 180.0	-85.3989 20 204	920922 4 ACT I	200000 3 R/V 1
0.	29.37	35.59	1545.16
5.	29.39	35.74	1545.43
10.	28.80	35.79	1544.34
15.	28.76	35.79	1544.32
20.	28.75	35.79	1544.39
30.	28.59	35.84	1544.28
40.	25.14	36.48	1537.46
50.	23.73	36.66	1534.48
60.	22.46	36.58	1531.40
70.	22.03	36.73	1530.65
80.	21.09	36.74	1528.41
90.	20.40	36.72	1526.70
100.	20.02	36.63	1525.73
110.	19.46	36.61	1524.34
120.	18.97	36.53	1523.04
130.	18.58	36.46	1522.04
140.	18.15	36.43	1520.92
150.	17.98	36.43	1520.59
160.	17.59	36.37	1519.56
180.	17.04	36.29	1518.16



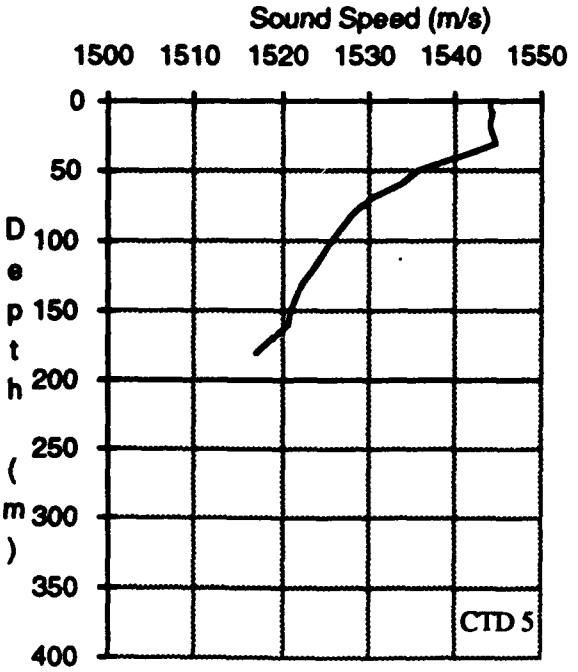
CTD 4

28.4706	-85.3214	920924	20000
330000	19	4	4
160.0	186	ACT I	R/V 1
0.	29.78	35.02	1545.39
5.	29.05	35.29	1544.24
10.	28.83	35.50	1544.08
15.	28.66	35.57	1543.87
20.	28.72	35.82	1544.35
30.	27.08	36.26	1541.47
40.	25.08	36.24	1537.07
50.	23.83	36.64	1534.69
60.	23.41	36.74	1533.95
70.	22.28	36.66	1531.22
80.	21.17	36.70	1528.54
90.	20.61	36.70	1527.23
100.	20.24	36.71	1526.44
110.	19.91	36.66	1525.64
120.	19.76	36.66	1525.39
130.	19.49	36.60	1524.76
140.	19.23	36.58	1524.16
150.	18.82	36.51	1523.10
160.	18.39	36.45	1521.97



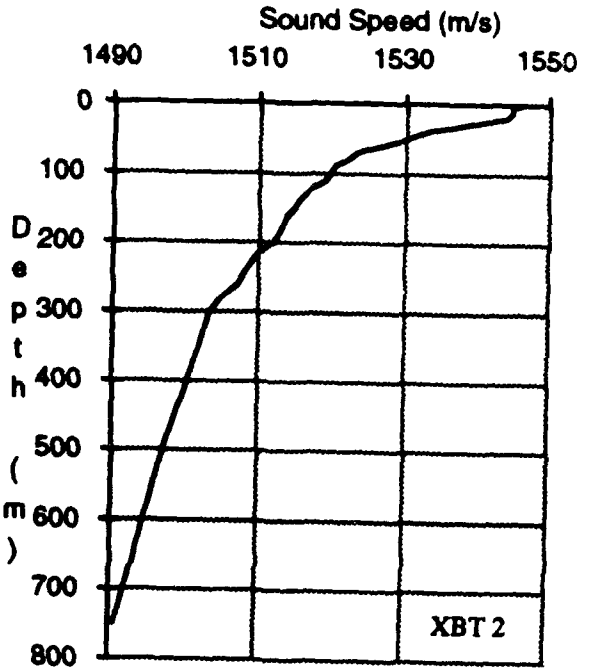
CTD 5

28.3861	-85.3042	920924	203000
330000	20	4	5
180.0	189	ACT I	R/V 1
0.	28.94	35.42	1544.08
5.	28.95	35.43	1544.18
10.	28.93	35.45	1544.24
15.	28.86	35.46	1544.19
20.	28.81	35.48	1544.18
30.	28.68	35.90	1544.52
40.	26.44	36.34	1540.27
50.	24.32	36.40	1535.60
60.	23.36	36.64	1533.72
70.	21.98	36.52	1530.28
80.	21.13	36.61	1528.34
90.	20.57	36.67	1527.10
100.	20.00	36.65	1525.70
110.	19.58	36.64	1524.71
120.	19.09	36.58	1523.45
130.	18.69	36.52	1522.42
140.	18.39	36.48	1521.68
150.	18.17	36.47	1521.21
160.	17.94	36.42	1520.64
180.	16.63	36.23	1516.89



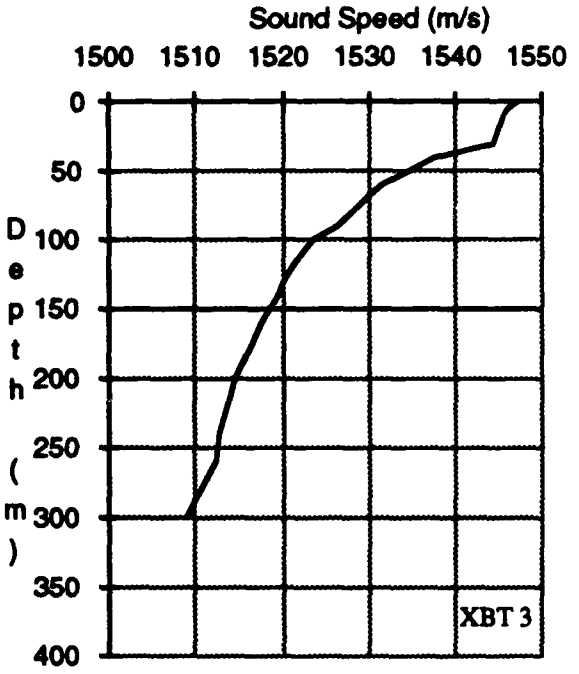
XBT 2

28.5000	-87.1333	920919	191244
110000	29	4	2
942.9	110	ACT I	R/V 1
0.	30.09	35.59	1546.64
5.	29.01	35.74	1544.65
10.	28.96	35.79	1544.67
15.	28.83	35.79	1544.48
20.	28.58	35.79	1544.04
30.	25.53	35.84	1537.49
40.	23.30	36.48	1533.05
50.	22.03	36.66	1530.24
60.	20.58	36.58	1526.53
70.	19.38	36.73	1523.61
80.	18.72	36.74	1521.94
90.	18.11	36.72	1520.33
100.	17.87	36.63	1519.71
110.	17.55	36.61	1518.92
120.	17.00	36.53	1517.35
130.	16.69	36.46	1516.51
140.	16.38	36.43	1515.70
150.	16.01	36.43	1514.74
160.	15.69	36.37	1513.85
180.	15.30	36.29	1512.86
200.	14.90	36.29	1511.93
220.	14.07	36.29	1509.61
240.	13.55	36.29	1508.25
260.	13.07	36.29	1506.99
280.	12.29	36.29	1504.67
300.	11.84	36.29	1503.47
400.	10.46	36.29	1500.27
500.	9.11	36.29	1497.01
750.	6.34	36.29	1490.54



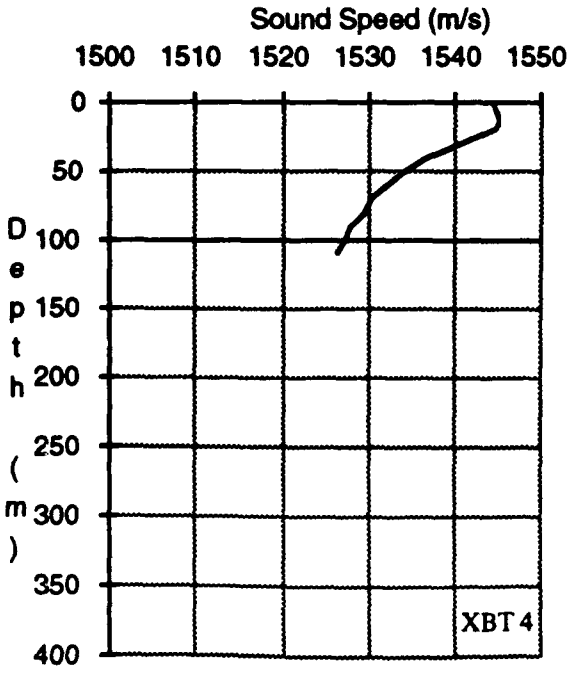
XBT 3

28.4167	-85.8833	920920	10104
110000	26	4	3
1585.0	110	ACT I	R/V 1
0.	30.29	35.59	1547.05
5.	29.59	35.74	1545.86
10.	29.33	35.79	1545.46
15.	29.20	35.79	1545.25
20.	29.09	35.79	1545.11
30.	28.61	35.84	1544.33
40.	25.20	36.48	1537.62
50.	23.89	36.66	1534.87
60.	22.55	36.58	1531.62
70.	21.70	36.73	1529.82
80.	20.86	36.74	1527.78
90.	20.22	36.72	1526.23
100.	19.21	36.63	1523.51
110.	18.73	36.61	1522.32
120.	18.30	36.53	1521.15
130.	17.96	36.46	1520.27
140.	17.64	36.43	1519.45
150.	17.30	36.43	1518.62
160.	16.96	36.37	1517.69
180.	16.31	36.29	1516.00
200.	15.75	36.29	1514.58
220.	15.32	36.29	1513.59
240.	14.89	36.29	1512.57
260.	14.73	36.29	1512.38
280.	14.05	36.29	1510.52
300.	13.45	36.29	1508.89



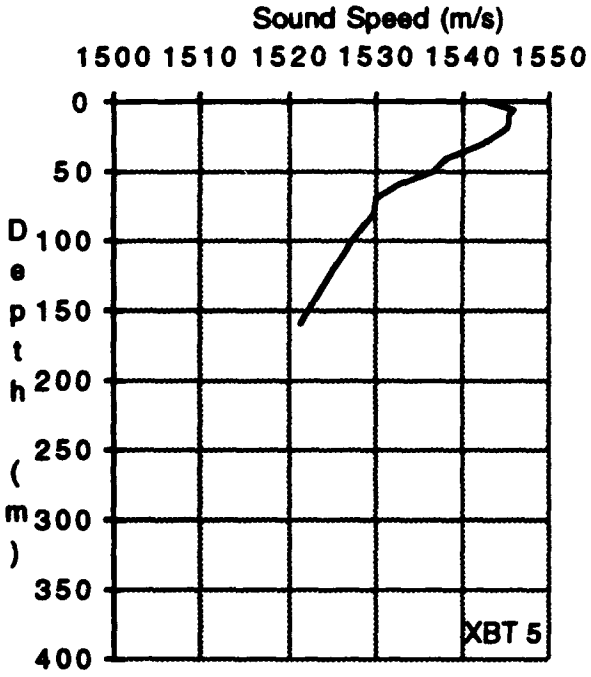
XBT 4

28.3833	-85.3000	920920	151523
110000	14	4	4
112.1	183	ACT I	R/V 1
0	29.01	35.59	1544.40
5	29.08	35.74	1544.79
10.	29.07	35.79	1544.90
15.	29.03	35.79	1544.90
20.	28.93	35.79	1544.78
30.	26.82	35.84	1540.42
40.	24.73	36.48	1536.50
50.	23.64	36.66	1534.25
60.	22.79	36.58	1532.23
70.	21.91	36.73	1530.35
80.	21.49	36.74	1529.44
90.	20.87	36.72	1527.95
100.	20.64	36.63	1527.41
110.	20.23	36.61	1526.45



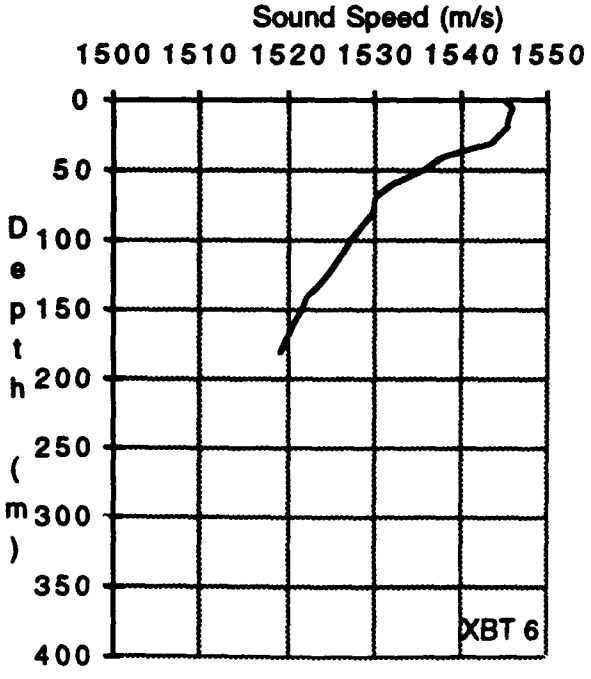
XBT 5

28.3833	-85.3000	920921	50006
110000	19	4	5
177.8	186	ACT I	R/V 1
0.	28.21	35.59	1542.70
5.	29.67	35.74	1546.02
10.	29.23	35.79	1545.24
15.	29.16	35.79	1545.17
20.	29.06	35.79	1545.06
30.	27.60	35.84	1542.14
40.	25.39	36.48	1538.06
50.	24.59	36.66	1536.53
60.	22.89	36.58	1532.47
70.	21.76	36.73	1529.96
80.	21.65	36.74	1529.85
90.	21.06	36.72	1528.47
100.	20.59	36.63	1527.27
110.	20.23	36.61	1526.44
120.	19.74	36.53	1525.19
130.	19.34	36.46	1524.16
140.	18.98	36.43	1523.29
150.	18.59	36.43	1522.35
160.	18.22	36.37	1521.39



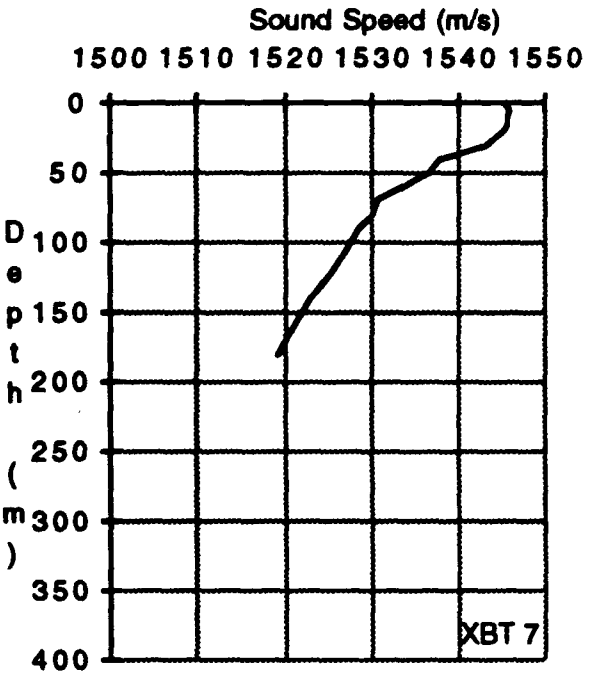
XBT 6

28.4000	-85.3500	920921	194233
110000	20	4	6
184.6	185	ACT 1	R/V 1
0.	29.27	35.59	1544.94
5.	29.56	35.74	1545.80
10.	29.34	35.79	1545.47
15.	29.26	35.79	1545.39
20.	29.15	35.79	1545.24
30.	28.19	35.84	1543.43
40.	25.26	36.48	1537.75
50.	24.28	36.66	1535.79
60.	22.79	36.58	1532.23
70.	21.84	36.73	1530.16
80.	21.58	36.74	1529.68
90.	21.06	36.72	1528.47
100.	20.59	36.63	1527.28
110.	20.24	36.61	1526.47
120.	19.70	36.53	1525.07
130.	19.27	36.46	1523.99
140.	18.66	36.43	1522.39
150.	18.35	36.43	1521.66
160.	18.00	36.37	1520.75
180.	17.33	36.29	1519.04



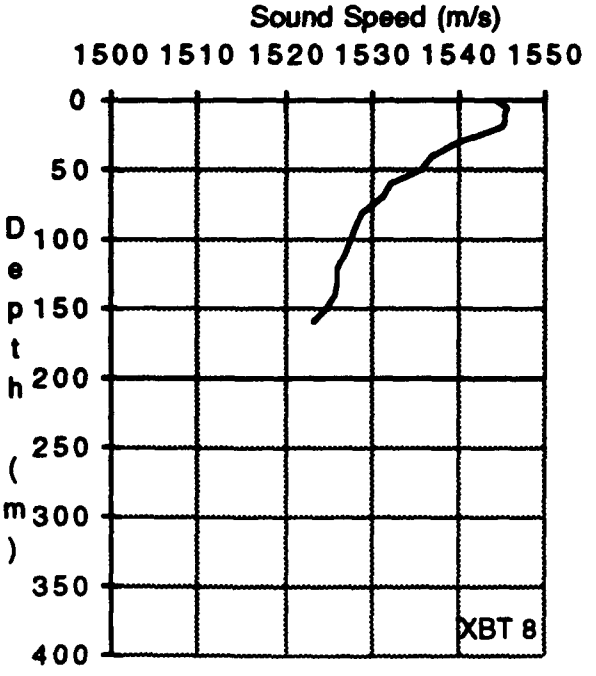
XBT 7

28.4000	-85.3500	920921	195557
110000	20	4	7
184.6	185	ACT 1	R/V 1
0.	29.50	35.59	1545.42
5.	29.69	35.74	1546.05
10.	29.37	35.79	1545.54
15.	29.33	35.79	1545.53
20.	29.16	35.79	1545.26
30.	28.11	35.84	1543.26
40.	25.25	36.48	1537.73
50.	24.58	36.66	1536.51
60.	23.43	36.58	1533.83
70.	22.05	36.73	1530.71
80.	21.70	36.74	1529.99
90.	21.13	36.72	1528.65
100.	20.69	36.63	1527.53
110.	20.25	36.61	1526.51
120.	19.82	36.53	1525.41
130.	19.35	36.46	1524.20
140.	18.86	36.43	1522.96
150.	18.48	36.43	1522.03
160.	18.08	36.37	1520.98
180.	17.42	36.29	1519.30



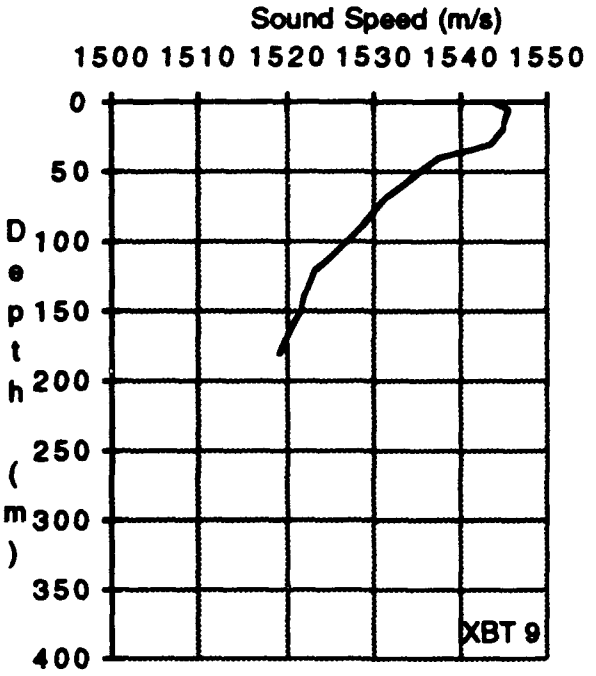
XBT 8

28.4628	-85.2742	920922	30000
110000	19	4	8
170.4	200	ACT I	R/V 1
0.	28.96	35.59	1544.29
5.	29.47	35.74	1545.60
10.	29.25	35.79	1545.29
15.	29.16	35.79	1545.17
20.	29.04	35.79	1545.01
30.	26.46	35.84	1539.62
40.	24.92	36.48	1536.96
50.	24.20	36.66	1535.61
60.	22.76	36.58	1532.17
70.	22.32	36.73	1531.39
80.	21.29	36.74	1528.93
90.	20.99	36.72	1528.28
100.	20.68	36.63	1527.51
110.	20.37	36.61	1526.83
120.	20.01	36.53	1525.93
130.	19.96	36.46	1525.87
140.	19.90	36.43	1525.84
150.	19.50	36.43	1524.89
160.	18.90	36.37	1523.33



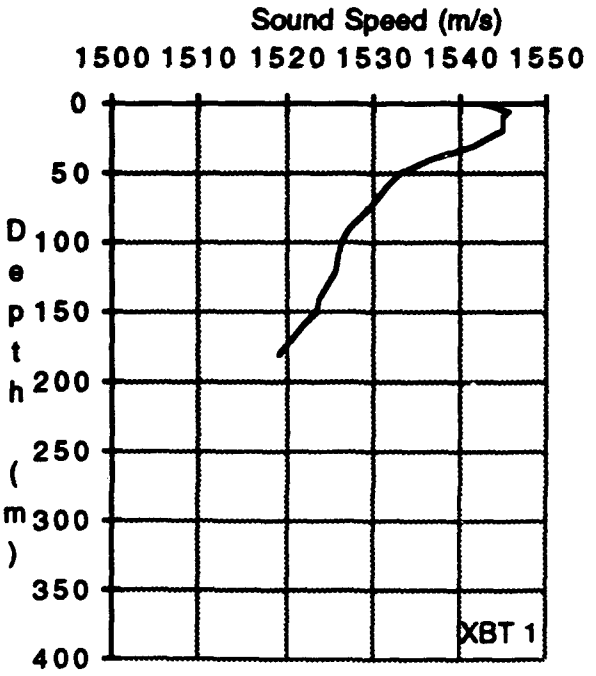
XBT 9

28.3833	-85.3333	920923	40705
110000	20	4	9
188.9	190	ACT 1	R/V 1
0.	28.66	35.59	1543.66
5.	29.42	35.74	1545.50
10.	29.25	35.79	1545.28
15.	29.10	35.79	1545.05
20.	28.97	35.79	1544.87
30.	28.25	35.84	1543.56
40.	25.21	36.48	1537.63
50.	24.04	36.66	1535.22
60.	23.31	36.58	1533.52
70.	22.28	36.73	1531.29
80.	21.66	36.74	1529.89
90.	21.04	36.72	1528.42
100.	20.42	36.63	1526.83
110.	19.83	36.61	1525.36
120.	19.07	36.53	1523.34
130.	18.77	36.46	1522.59
140.	18.48	36.43	1521.88
150.	18.36	36.43	1521.69
160.	17.95	36.37	1520.62
180.	17.35	36.29	1519.09



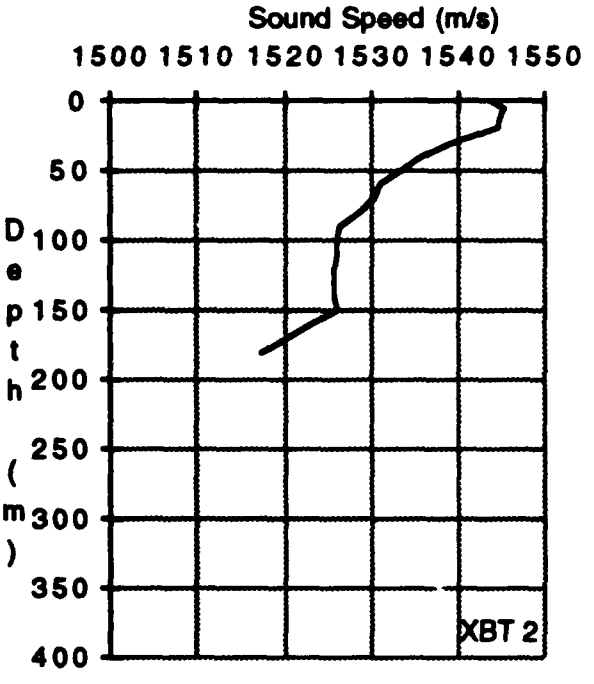
XBT 1

28.3872	-85.2957	920921	183500
110000	20	4	1
180.3	180	ACT I	R/V 2
0.	27.97	35.74	1542.34
5.	29.53	35.57	1545.55
10.	29.37	35.39	1545.11
15.	29.29	35.33	1544.96
20.	29.20	35.41	1544.94
30.	27.28	35.80	1541.40
40.	24.99	35.96	1536.53
50.	23.52	36.01	1533.24
60.	22.65	36.24	1531.49
70.	22.08	36.29	1530.28
80.	21.40	36.32	1528.72
90.	20.82	36.35	1527.40
100.	20.44	36.30	1526.49
110.	20.19	36.31	1526.00
120.	19.98	36.34	1525.61
130.	19.54	36.38	1524.63
140.	19.14	36.44	1523.75
150.	18.90	36.64	1523.47
160.	18.59	36.11	1522.14
180.	17.48	36.11	1519.26



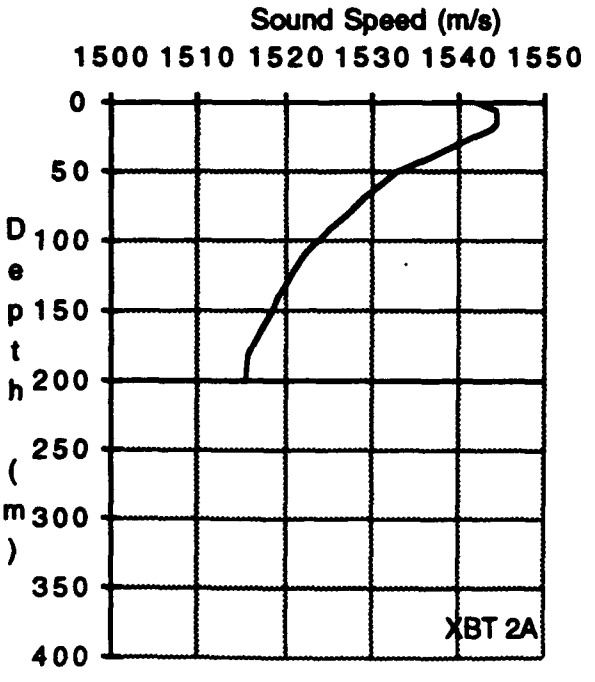
XBT 2

28.6190	-85.5680	920922	181200
110000	20	4	2
191.4	188	ACT I	R/V 2
0.	28.66	35.74	1543.82
5.	29.35	35.57	1545.18
10.	29.28	35.39	1544.92
15.	29.18	35.33	1544.73
20.	29.03	35.41	1544.58
30.	26.25	35.80	1539.09
40.	24.60	35.96	1535.61
50.	23.67	36.01	1533.60
60.	22.47	36.24	1531.03
70.	22.10	36.29	1530.34
80.	21.29	36.32	1528.44
90.	20.47	36.35	1526.45
100.	20.27	36.30	1526.02
110.	20.20	36.31	1526.00
120.	20.02	36.34	1525.72
130.	19.91	36.38	1525.63
140.	19.86	36.44	1525.74
150.	19.77	36.64	1525.89
160.	18.95	36.11	1523.17
180.	16.78	36.11	1517.20



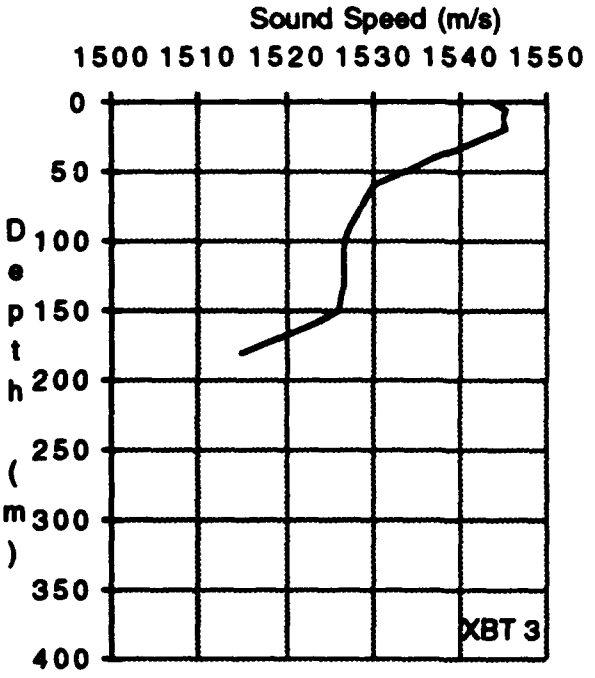
XBT 2A

28.3833	-85.6783	920923	70500
110000	21	4	2A
200.6	295	ACT I	R/V 2
0.	28.08	35.45	1542.26
5.	29.02	35.49	1544.39
10.	29.03	35.39	1544.39
15.	28.99	35.29	1544.28
20.	28.71	35.30	1543.78
30.	26.57	35.70	1539.71
40.	25.06	35.88	1536.60
50.	23.45	35.89	1532.92
60.	22.44	36.14	1530.86
70.	21.72	36.22	1529.27
80.	20.95	36.09	1527.29
90.	20.14	36.09	1525.28
100.	19.55	36.14	1523.88
110.	18.98	36.11	1522.42
120.	18.45	36.05	1521.01
130.	18.07	36.04	1520.08
140.	17.69	36.03	1519.12
150.	17.43	36.00	1518.49
160.	17.04	36.09	1517.60
180.	16.50	35.74	1515.89
200.	16.23	35.71	1515.37



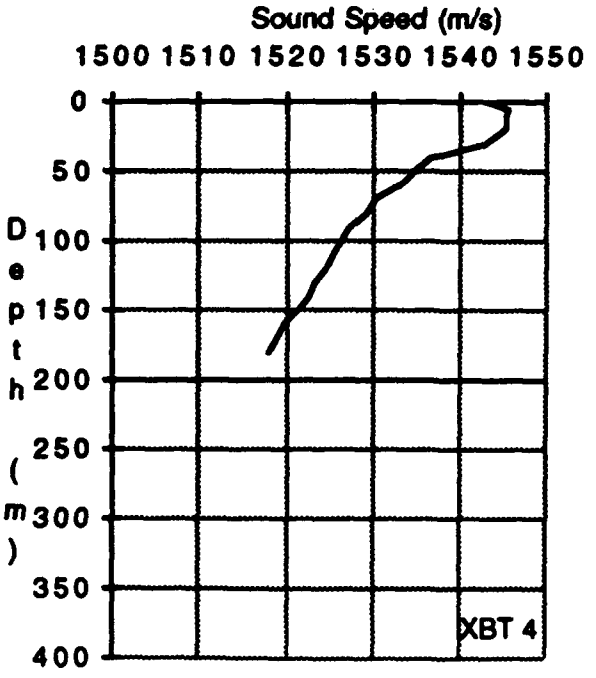
XBT 3

28.6190	-85.5680	920923	223200
110000	20	4	3
193.9	193	ACT I	R/V 2
0.	28.67	35.74	1543.84
5.	29.43	35.57	1545.34
10.	29.32	35.39	1545.01
15.	29.31	35.33	1545.00
20.	29.33	35.41	1545.22
30.	27.00	35.80	1540.78
40.	25.17	35.96	1536.94
50.	23.73	36.01	1533.75
60.	22.11	36.24	1530.13
70.	21.58	36.29	1528.98
80.	21.17	36.32	1528.13
90.	20.82	36.35	1527.40
100.	20.54	36.30	1526.74
110.	20.47	36.31	1526.75
120.	20.35	36.34	1526.62
130.	20.27	36.38	1526.60
140.	20.04	36.44	1526.23
150.	19.78	36.64	1525.91
160.	18.97	36.11	1523.22
180.	15.99	36.11	1514.81



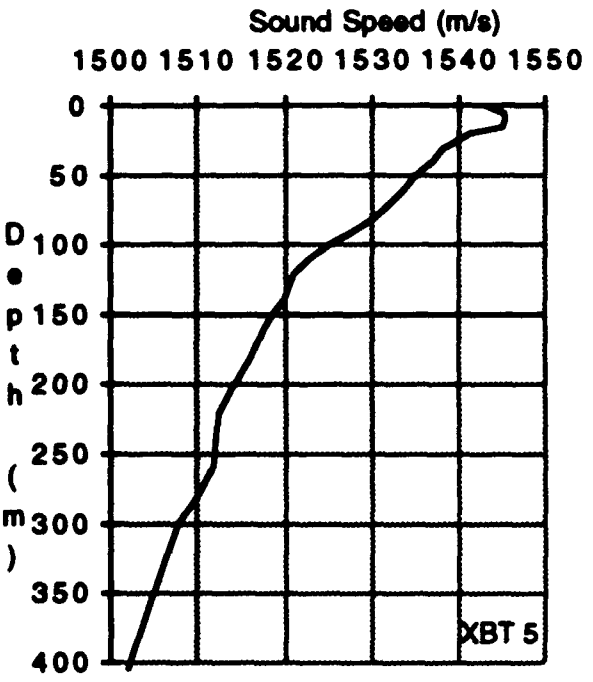
XBT 4

28.5000	-85.4333	920924	10100
110000	20	4	4
188.9	183	ACT I	R/V 2
0.	28.26	35.74	1542.97
5.	29.48	35.57	1545.44
10.	29.51	35.39	1545.40
15.	29.44	35.33	1545.28
20.	29.31	35.41	1545.17
30.	27.96	35.80	1542.87
40.	25.00	35.96	1536.55
50.	24.15	36.01	1534.76
60.	23.37	36.24	1533.28
70.	22.18	36.29	1530.52
80.	21.56	36.32	1529.15
90.	20.75	36.35	1527.21
100.	20.36	36.30	1526.26
110.	19.98	36.31	1525.42
120.	19.61	36.34	1524.61
130.	19.06	36.38	1523.28
140.	18.72	36.44	1522.57
150.	18.16	36.64	1521.37
160.	17.77	36.11	1519.77
180.	16.99	36.11	1517.81



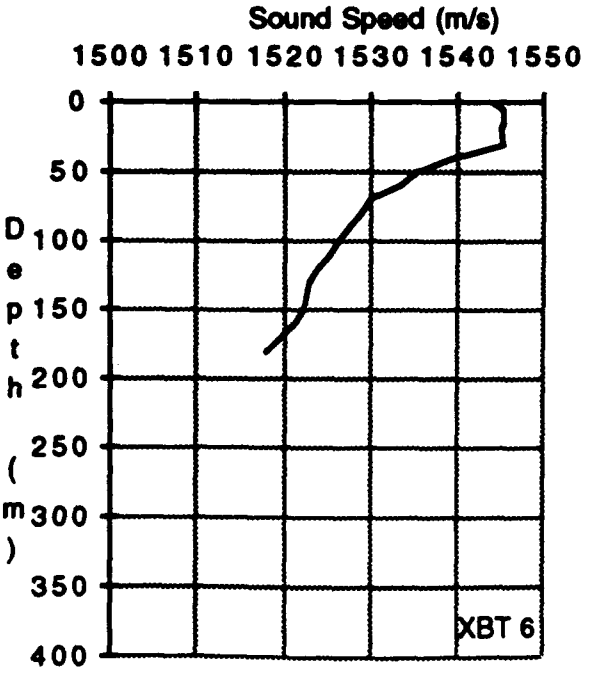
XBT 5

28.0833	-85.6333	920924	80900
110000	28	4	5
550.4	560	ACT I	R/V 2
0.	28.47	35.45	1543.10
5.	29.50	35.49	1545.40
10.	29.52	35.39	1545.41
20.	27.72	35.30	1541.66
30.	25.92	35.70	1538.25
40.	25.16	35.88	1536.85
50.	24.36	35.89	1535.12
60.	23.60	36.14	1533.74
70.	22.86	36.22	1532.17
80.	22.18	36.09	1530.49
90.	21.11	36.09	1527.86
100.	19.94	36.14	1524.95
110.	19.11	36.11	1522.77
120.	18.50	36.05	1521.15
150.	17.50	36.00	1518.69
180.	16.60	35.74	1516.20
200.	15.83	35.71	1514.13
220.	15.20	35.71	1512.50
240.	14.96	35.71	1512.09
260.	14.75	35.71	1511.73
280.	14.06	35.71	1509.83
300.	13.35	35.71	1507.84
500.	9.69	35.71	1498.38



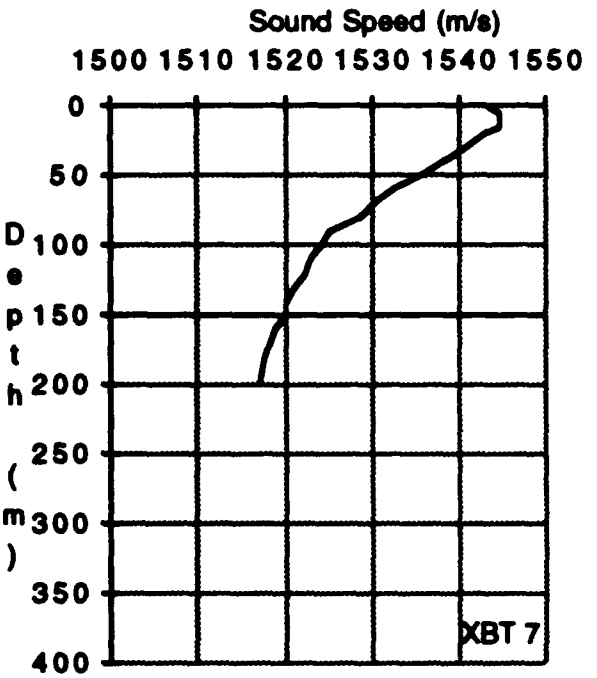
XBT 6

28.3955	-85.3125	920924	193200
110000	20	4	6
182.8	183	ACT I	R/V 2
0.	28.70	35.74	1543.90
5.	29.40	35.57	1545.27
10.	29.39	35.39	1545.15
15.	29.40	35.33	1545.19
20.	29.26	35.41	1545.06
30.	29.07	35.80	1545.23
40.	26.18	35.96	1539.28
50.	24.44	36.01	1535.45
60.	23.49	36.24	1533.58
70.	22.04	36.29	1530.19
80.	21.45	36.32	1528.86
90.	20.91	36.35	1527.64
100.	20.42	36.30	1526.43
110.	20.02	36.31	1525.51
120.	19.38	36.34	1523.96
140.	18.69	36.44	1522.49
150.	18.50	36.64	1522.34
180.	17.01	36.11	1517.87



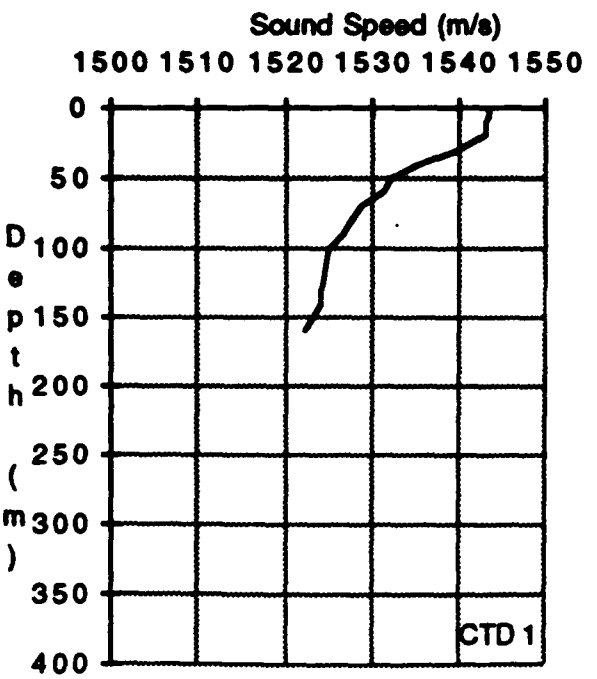
XBT 7

28.3833	-85.4883	920925	90600
110000	21	4	7
200.6	232	ACT I	R/V 2
0.	28.34	35.74	1543.14
5.	29.14	35.57	1544.73
10.	29.15	35.39	1544.65
15.	29.13	35.33	1544.62
20.	28.35	35.41	1543.14
30.	26.93	35.80	1540.62
40.	25.71	35.96	1538.21
50.	24.52	36.01	1535.64
60.	23.01	36.24	1532.41
70.	22.08	36.29	1530.28
80.	21.33	36.32	1528.54
90.	19.94	36.35	1525.03
100.	19.54	36.30	1524.03
110.	19.13	36.31	1523.06
120.	18.76	36.34	1522.25
130.	18.25	36.38	1521.00
140.	17.88	36.44	1520.17
150.	17.74	36.64	1520.16
160.	17.50	36.11	1518.99
180.	16.93	36.11	1517.65
200.	16.58	36.11	1516.92



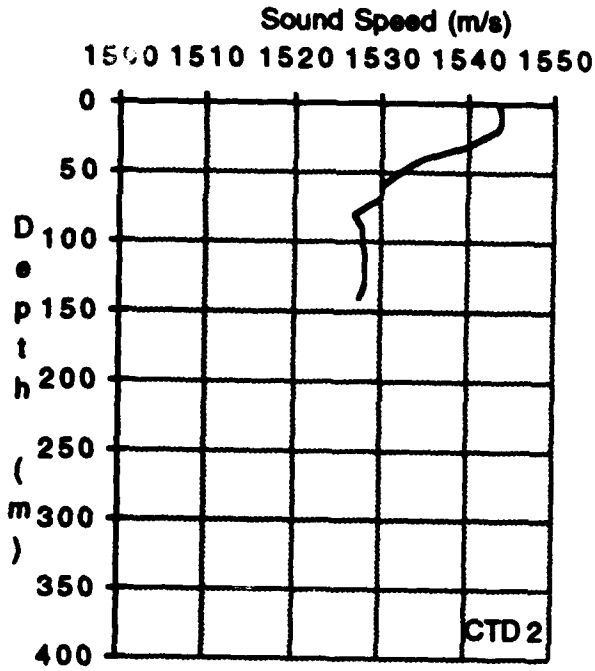
CTD 1

28.4150	-85.2800	920920	70400
330000	19	4	1
178.7	180	ACT I	R/V 3
0	28.45	35.74	1543.37
5	28.45	35.57	1543.27
10	28.45	35.39	1543.16
15	28.41	35.33	1543.1
20	28.35	35.41	1543.13
30	26.56	35.8	1539.8
40	24.45	35.96	1535.25
50	23.11	36.01	1532.22
60	22.58	36.24	1531.31
70	21.49	36.29	1528.76
80	20.95	36.32	1527.54
90	20.54	36.35	1526.64
100	19.89	36.3	1524.99
110	19.74	36.31	1524.77
120	19.56	36.34	1524.48
130	19.38	36.38	1524.19
140	19.25	36.44	1524.06
150	18.86	36.64	1523.36
160	18.66	36.11	1522.35



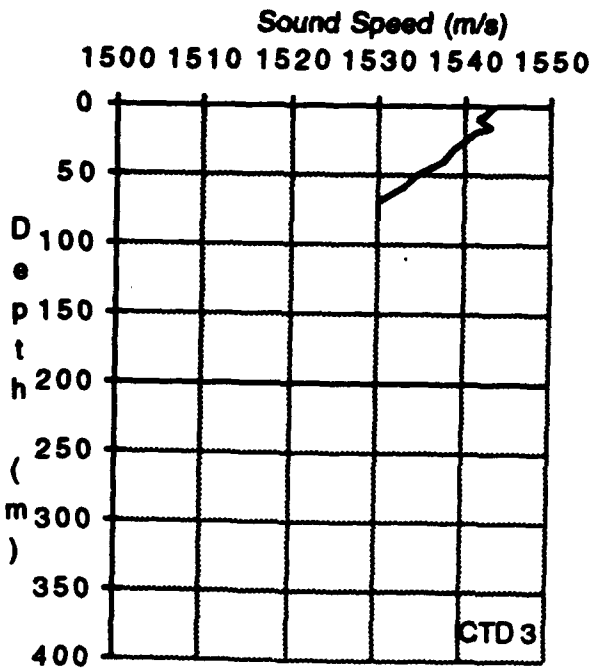
CTD 2

28.6204	-85.2990	920923	80900
330000	17	4	2
178.7	180	ACT I	R/V 3
0.	28.45	35.67	1543.29
3.	28.66	35.50	1543.63
10.	28.73	35.39	1543.75
15.	28.65	35.39	1543.67
20.	28.51	35.45	1543.53
30.	26.69	35.78	1540.07
40.	24.29	35.85	1534.75
50.	23.09	35.95	1532.10
60.	22.11	36.06	1529.92
70.	22.00	36.36	1530.14
80.	20.49	36.82	1526.88
90.	21.05	36.24	1527.89
100.	21.03	36.25	1527.99
110.	21.02	36.25	1528.13
120.	21.01	36.25	1528.29
130.	20.95	36.25	1528.29
140.	20.65	36.23	1527.64



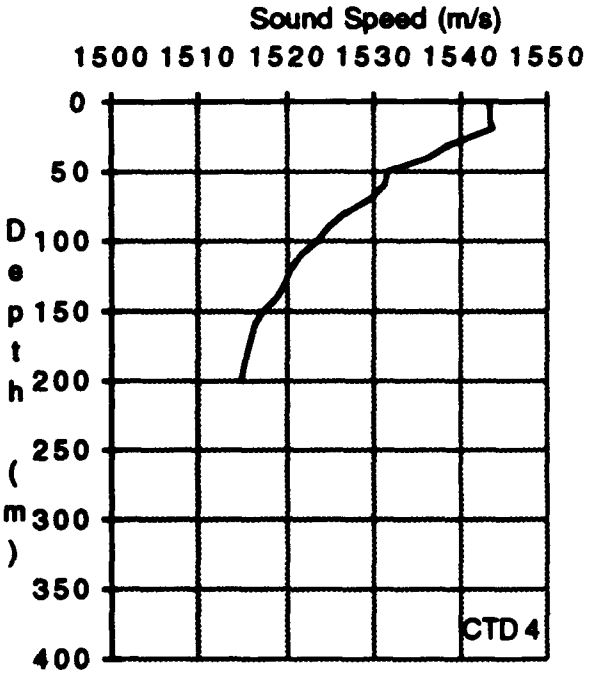
CTD 3

28.6188	-85.0050	920923	101630
330000	11	4	3
86.2	86	ACT I	R/V 3
0	28.67	35.21	1543.27
5	28.28	35.21	1542.52
10	27.57	35.78	1541.68
15	28.23	35.57	1542.96
20	27.32	35.66	1541.17
30	26.02	36.05	1538.85
40	25.31	36.19	1537.53
50	23.85	36.22	1534.27
60	23.11	36.42	1532.84
70	22.02	36.23	1530.06
80	21.94	36.22	1530



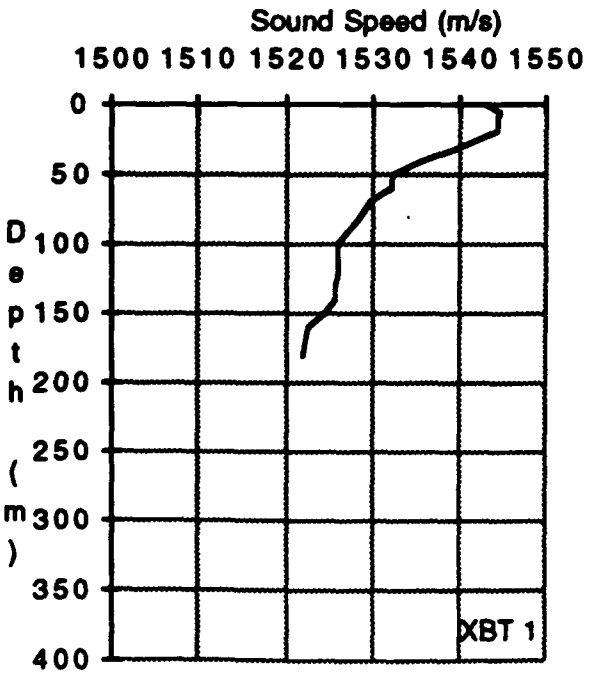
CTD 4

28.5033	-85.7010	920925	152400
330000	21	4	4
175.4	172	ACT I	R/V 3
0	28.55	35.45	1543.26
5	28.5	35.49	1543.29
10	28.55	35.39	1543.37
15	28.61	35.29	1543.48
20	28.61	35.3	1543.58
30	26.1	35.7	1538.64
40	24.85	35.88	1536.12
50	22.97	35.89	1531.73
60	22.63	36.14	1531.33
70	21.9	36.22	1529.74
80	20.66	36.09	1526.5
90	19.94	36.09	1524.72
100	19.41	36.14	1523.47
110	18.74	36.11	1521.74
120	18.22	36.05	1520.35
130	17.95	36.04	1519.74
140	17.58	36.03	1518.8
150	17.05	36	1517.37
160	16.65	36.09	1516.45
180	16.34	35.74	1515.42
200	16.1	35.71	1514.96



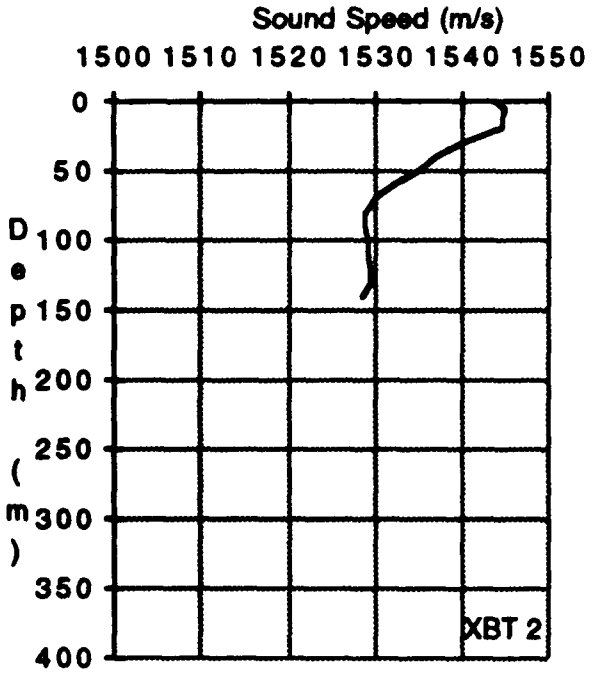
XBT 1

28.4157	-85.2810	920920	70905
110000	20	4	1
183.4	180	ACT I	R/V 3
0.	28.17	35.74	1542.77
5.	29.10	35.57	1544.65
10.	29.01	35.39	1544.36
15.	29.00	35.33	1544.35
20.	28.90	35.41	1544.31
30.	26.63	35.80	1539.96
40.	24.57	35.96	1535.53
50.	23.10	36.01	1532.20
60.	22.95	36.24	1532.25
70.	21.90	36.29	1529.82
80.	21.30	36.32	1528.46
90.	20.80	36.35	1527.34
100.	20.30	36.30	1526.10
110.	20.20	36.31	1526.01
120.	20.10	36.34	1525.94
130.	19.90	36.38	1525.61
140.	19.81	36.44	1525.61
150.	19.30	36.64	1524.59
160.	18.78	36.11	1522.69
180.	18.40	36.11	1521.93



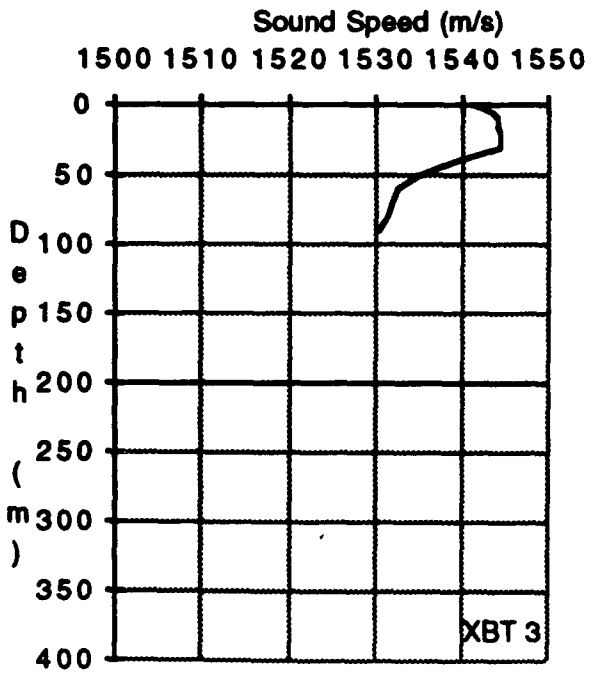
XBT 2

28.5277	-85.1410	920920	104255
110000	17	4	2
143.2	140	ACT I	R/V 3
0.	28.67	35.74	1543.83
5.	29.30	35.57	1545.06
10.	29.10	35.39	1544.54
15.	29.10	35.33	1544.56
20.	29.00	35.41	1544.52
30.	26.53	35.80	1539.73
40.	25.10	35.96	1536.79
50.	24.20	36.01	1534.88
60.	22.95	36.24	1532.25
70.	22.05	36.29	1530.21
80.	21.40	36.32	1528.72
90.	21.40	36.35	1528.92
100.	21.40	36.30	1529.02
110.	21.40	36.31	1529.20
120.	21.40	36.34	1529.40
130.	21.30	36.38	1529.35
140.	20.90	36.44	1528.53



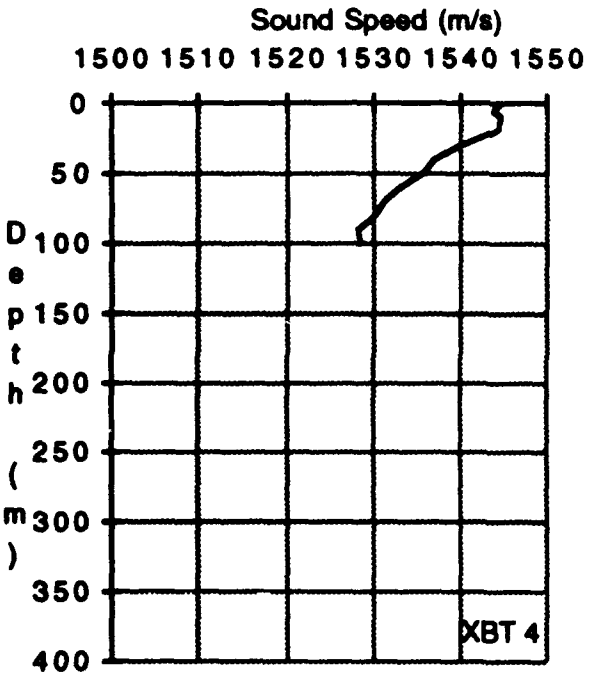
XBT 3

28.6204	-85.0328	920920	113632
110000	12	4	3
93.4	90	ACT I	R/V 3
0.	27.67	35.21	1541.11
5.	28.70	35.21	1543.42
10.	28.70	35.78	1544.11
15.	28.70	35.57	1543.97
20.	28.78	35.66	1544.32
30.	28.53	36.05	1544.38
40.	25.93	36.19	1538.97
50.	24.14	36.22	1534.98
60.	23.00	36.42	1532.58
70.	22.70	36.23	1531.78
80.	22.50	36.22	1531.43
90.	22.00	36.22	1530.32



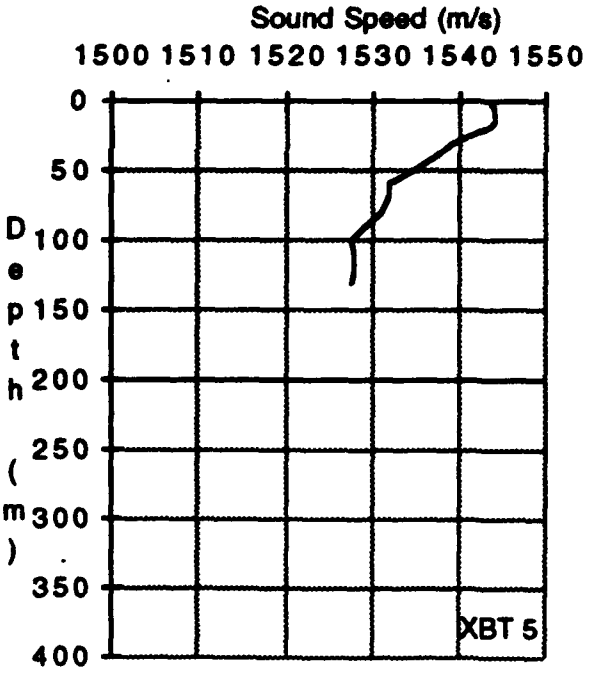
XBT 4

28.7375	-85.1666	920920	123820
110000	13	4	4
108.4	105	ACT I	R/V 3
0.	29.40	35.21	1544.81
5.	28.90	35.21	1543.84
10.	28.90	35.78	1544.54
15.	28.90	35.57	1544.39
20.	28.80	35.66	1544.36
30.	26.43	36.05	1539.79
40.	25.00	36.19	1536.81
50.	24.40	36.22	1535.59
60.	23.25	36.42	1533.20
70.	22.55	36.23	1531.40
80.	22.00	36.22	1530.16
90.	21.20	36.22	1528.25
100.	21.20	36.22	1528.41



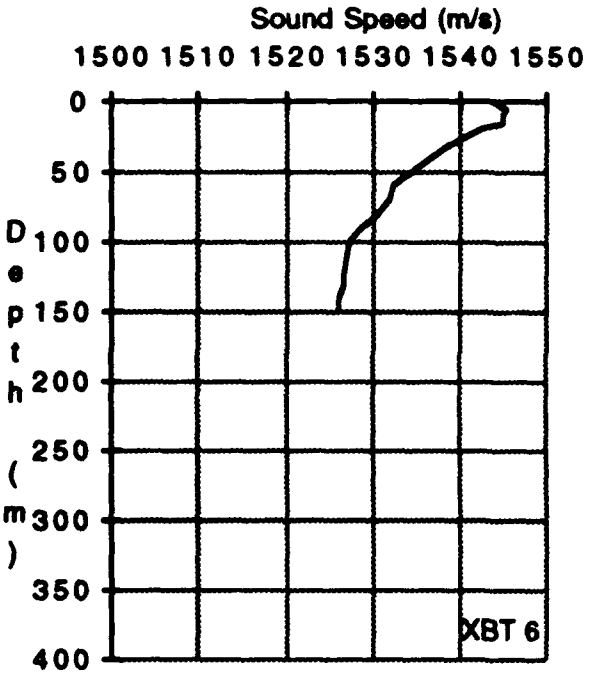
XBT 5

28.6783	-85.2376	920920	132225
110000	16	4	5
133.2	130	ACT I	R/V 3
0.	28.47	35.67	1543.33
5.	28.90	35.50	1544.15
10.	28.80	35.39	1543.91
15.	28.80	35.39	1543.99
20.	28.50	35.45	1543.50
30.	26.30	35.78	1539.19
40.	25.33	35.85	1537.21
50.	24.14	35.95	1534.68
60.	22.95	36.06	1532.04
70.	22.70	36.36	1531.92
80.	22.10	36.82	1531.10
90.	21.50	36.24	1529.06
100.	20.90	36.25	1527.65
110.	20.90	36.25	1527.82
120.	20.90	36.25	1527.99
130.	20.72	36.25	1527.66



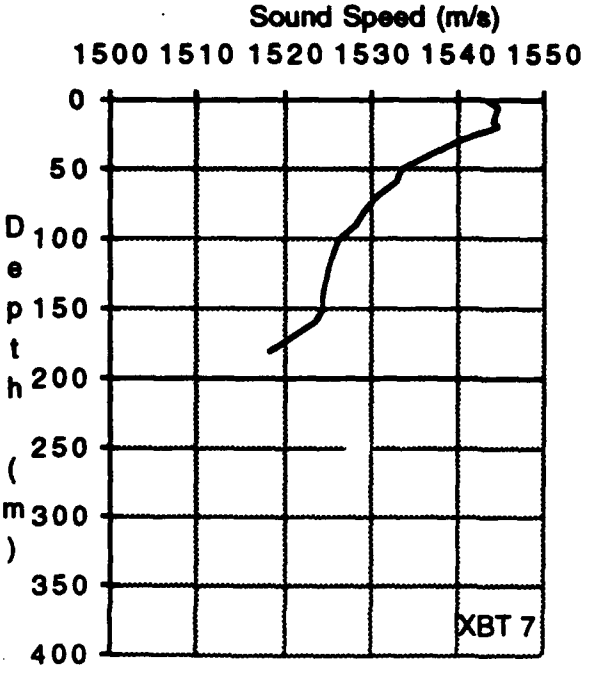
XBT 6

28.6196	-85.3342	920920	141455
110000	18	4	6
160.5	160	ACT I	R/V 3
0.	28.66	35.67	1543.74
5.	29.40	35.50	1545.20
10.	29.25	35.39	1544.86
15.	29.20	35.39	1544.83
20.	28.00	35.45	1542.43
30.	26.16	35.78	1538.87
40.	25.00	35.85	1536.43
50.	24.06	35.95	1534.47
60.	23.00	36.06	1532.17
70.	22.70	36.36	1531.92
80.	21.80	36.82	1530.33
90.	21.33	36.24	1528.61
100.	20.80	36.25	1527.38
110.	20.60	36.25	1527.02
120.	20.40	36.25	1526.65
130.	20.30	36.25	1526.54
140.	20.10	36.23	1526.15
150.	20.00	36.23	1526.04



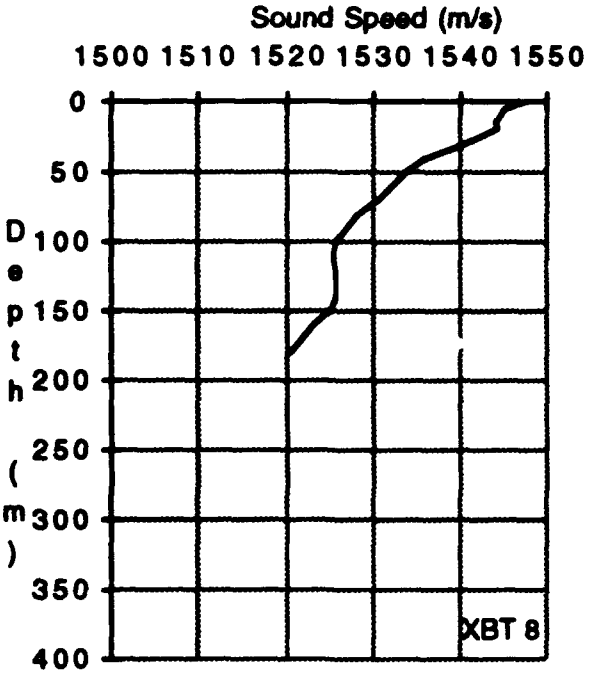
XBT 7

28.6205	-85.5700	920920	153134
110000	20	4	7
198.2	195	ACT I	R/V 3
0.	28.54	35.74	1543.57
5.	29.10	35.57	1544.65
10.	29.00	35.39	1544.33
15.	28.92	35.33	1544.17
20.	29.00	35.41	1544.52
30.	26.47	35.80	1539.58
40.	25.03	35.96	1536.63
50.	23.64	36.01	1533.53
60.	23.15	36.24	1532.74
70.	22.20	36.29	1530.59
80.	21.55	36.32	1529.11
90.	21.10	36.35	1528.13
100.	20.40	36.30	1526.37
110.	20.10	36.31	1525.74
120.	19.80	36.34	1525.13
130.	19.60	36.38	1524.78
140.	19.40	36.44	1524.47
150.	19.30	36.64	1524.59
160.	19.08	36.11	1523.53
180.	17.10	36.11	1518.14



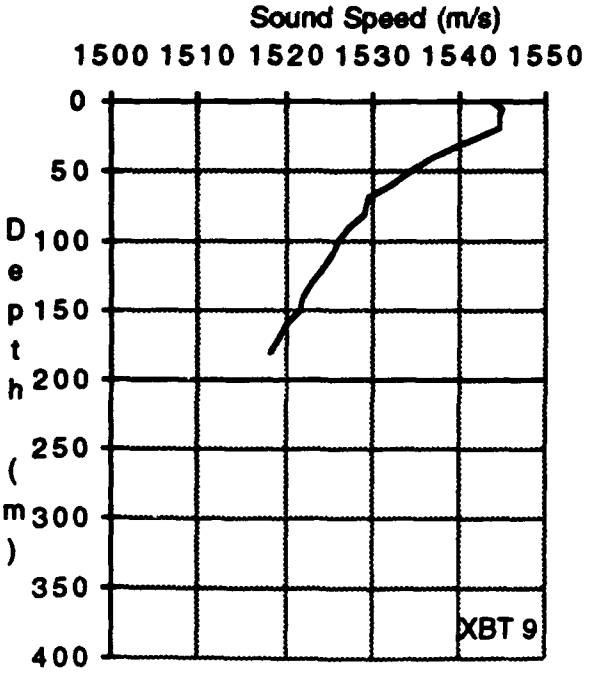
XBT 8

28.5014	-85.4322	920920	164643
110000	20	4	8
190.2	187	ACT I	R/V 3
0.	30.37	35.74	1547.37
5.	29.20	35.57	1544.85
10.	29.10	35.39	1544.54
15.	28.92	35.33	1544.17
20.	28.90	35.41	1544.31
30.	26.73	35.80	1540.18
40.	24.73	35.96	1535.93
50.	23.70	36.01	1533.67
60.	23.00	36.24	1532.37
70.	22.25	36.29	1530.72
80.	21.25	36.32	1528.33
90.	20.70	36.35	1527.07
100.	20.10	36.30	1525.56
110.	20.00	36.31	1525.47
120.	20.00	36.34	1525.67
130.	19.90	36.38	1525.61
140.	19.80	36.44	1525.57
150.	19.50	36.64	1525.15
160.	18.98	36.11	1523.25
180.	17.90	36.11	1520.49



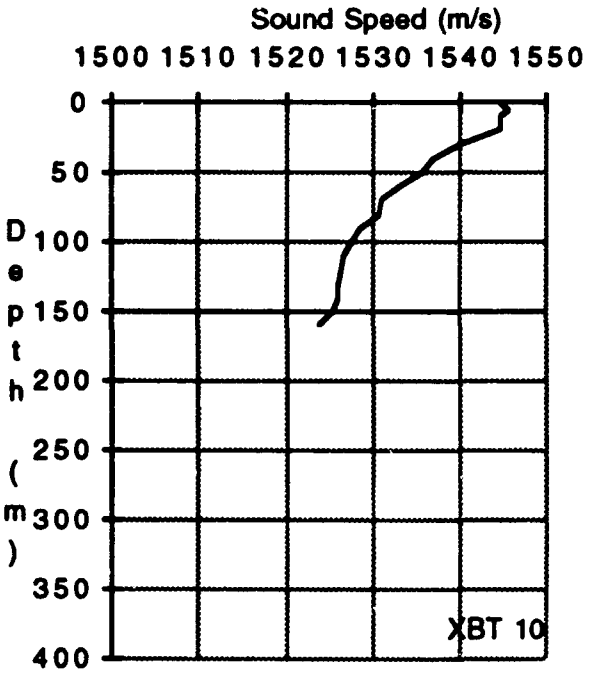
XBT 9

28.3810	-85.3190	920921	103819
110000	20	4	9
18.9	186	ACT I	R/V 3
0.	28.56	35.74	1543.60
5.	29.30	35.57	1545.06
10.	29.20	35.39	1544.75
15.	29.10	35.33	1544.56
20.	29.10	35.41	1544.73
30.	26.86	35.80	1540.46
40.	25.10	35.96	1536.79
50.	24.00	36.01	1534.40
60.	23.00	36.24	1532.37
70.	21.80	36.29	1529.56
80.	21.50	36.32	1528.98
90.	20.80	36.35	1527.34
100.	20.30	36.30	1526.10
110.	20.00	36.31	1525.47
120.	19.40	36.34	1524.03
130.	18.90	36.38	1522.84
140.	18.50	36.44	1521.94
150.	18.30	36.64	1521.77
160.	17.90	36.11	1520.16
180.	17.10	36.11	1518.14



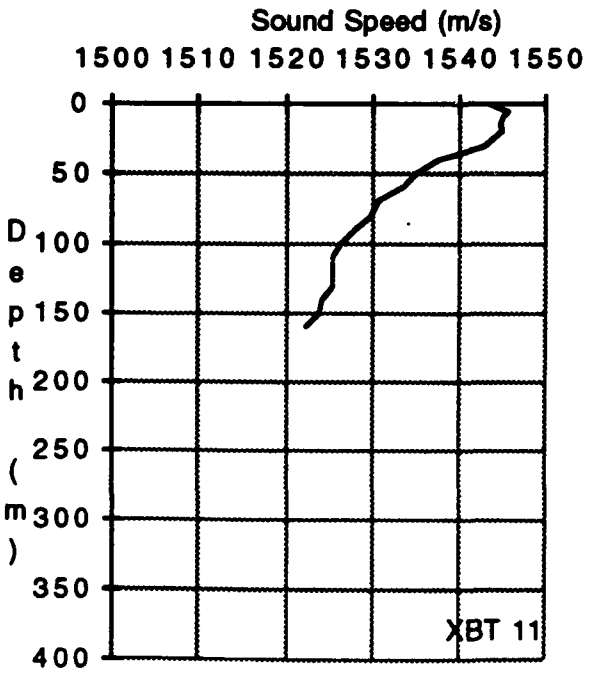
XBT 10

28.4627	-85.2950	920921	151345
110000	19	4	10
175.4	172	ACT I	R/V 3
0.	29.04	35.74	1544.63
5.	29.50	35.57	1545.48
10.	29.20	35.39	1544.75
15.	29.20	35.33	1544.77
20.	29.10	35.41	1544.73
30.	26.53	35.80	1539.73
40.	25.20	35.96	1537.02
50.	24.54	36.01	1535.70
60.	23.35	36.24	1533.24
70.	22.35	36.29	1530.97
80.	22.10	36.32	1530.53
90.	21.30	36.35	1528.66
100.	20.84	36.30	1527.56
110.	20.43	36.31	1526.64
120.	20.30	36.34	1526.49
130.	20.10	36.38	1526.15
140.	20.00	36.44	1526.11
150.	19.60	36.64	1525.42
160.	19.18	36.11	1523.81



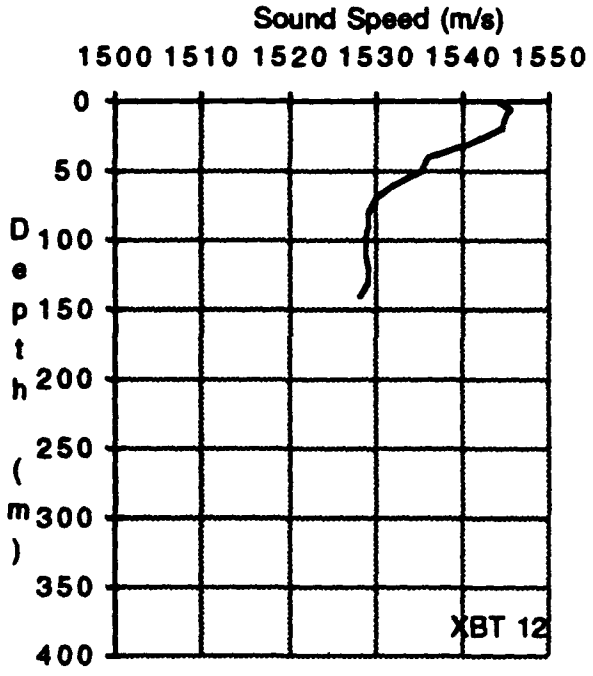
XBT 11

28.3936	-85.2610	920921	220846
110000	19	4	11
174.1	174	ACT I	R/V 3
0.	28.45	35.74	1543.37
5.	29.50	35.57	1545.48
10.	29.30	35.39	1544.96
15.	29.20	35.33	1544.77
20.	29.20	35.41	1544.94
30.	27.90	35.80	1542.75
40.	25.43	35.96	1537.57
50.	24.26	36.01	1535.02
60.	23.40	36.24	1533.36
70.	22.20	36.29	1530.59
80.	21.80	36.32	1529.76
90.	21.00	36.35	1527.87
100.	20.40	36.30	1526.37
110.	20.00	36.31	1525.47
120.	19.90	36.34	1525.40
130.	19.80	36.38	1525.33
140.	19.30	36.44	1524.19
150.	19.00	36.64	1523.76
160.	18.60	36.11	1522.17



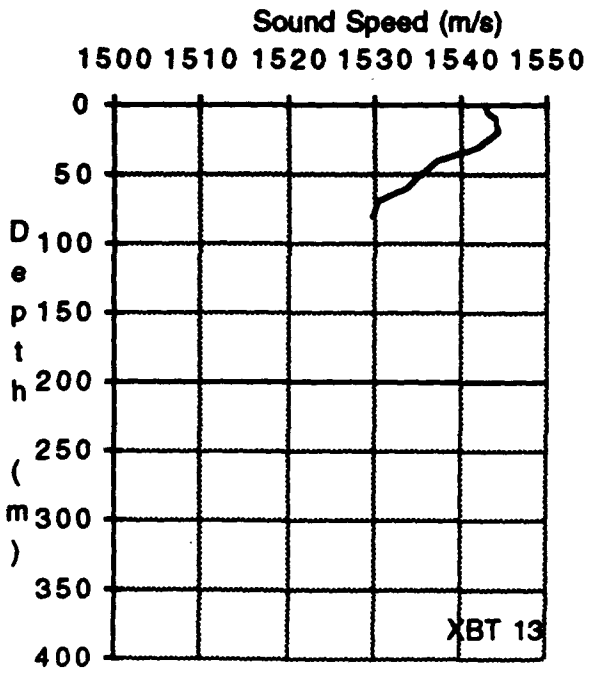
XBT 12

28.5006	-85.1384	920921	231816
110000	17	4	12
140.7	140	ACT I	R/V 3
0.	28.77	35.74	1544.05
5.	29.60	35.57	1545.69
10.	29.30	35.39	1544.96
15.	29.20	35.33	1544.77
20.	29.10	35.41	1544.73
30.	26.97	35.80	1540.71
40.	24.80	35.96	1536.09
50.	24.36	36.01	1535.26
60.	22.90	36.24	1532.12
70.	22.00	36.29	1530.08
80.	21.59	36.32	1529.21
90.	21.50	36.35	1529.18
100.	21.30	36.30	1528.76
110.	21.30	36.31	1528.94
120.	21.30	36.34	1529.14
130.	21.20	36.38	1529.09
140.	20.77	36.44	1528.19



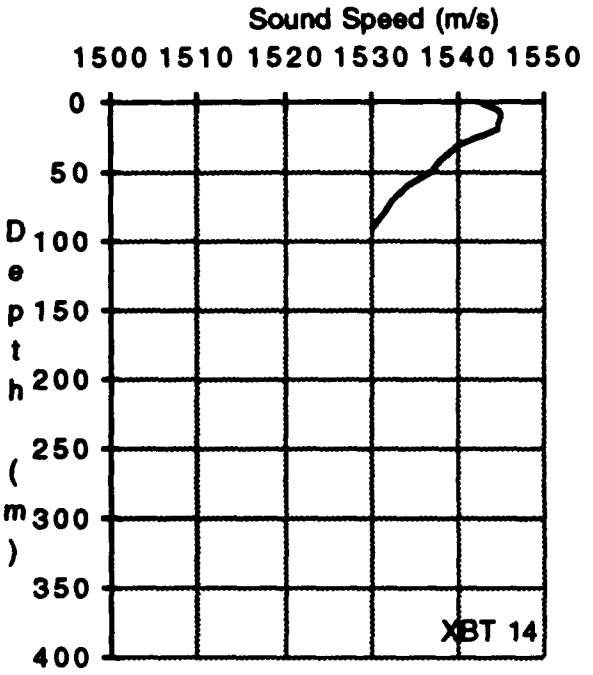
XBT 13

28.6274	-85.0110	920922	509
110000	11	4	13
80.9	81	ACT I	R/V 3
0.	28.38	35.21	1542.66
5.	28.60	35.21	1543.21
10.	28.70	35.78	1544.11
15.	28.70	35.57	1543.97
20.	28.80	35.66	1544.36
30.	27.40	36.05	1541.93
40.	25.13	36.19	1537.13
50.	24.34	36.22	1535.46
60.	23.45	36.42	1533.69
70.	22.10	36.23	1530.26
80.	21.90	36.22	1529.90



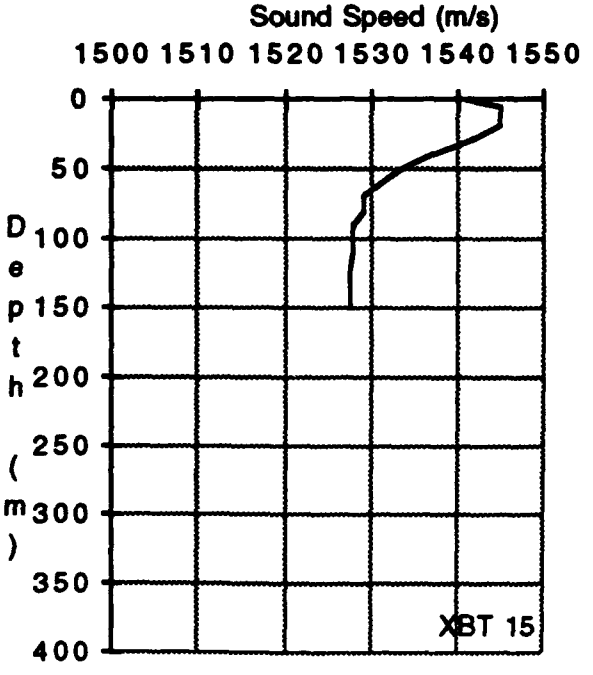
XBT 14

28.7542	-85.1730	920922	20704
110000	12	4	14
99.6	100	ACT I	R/V 3
0.	28.25	35.21	1542.37
5.	29.30	35.21	1544.68
10.	29.10	35.78	1544.96
15.	29.10	35.57	1544.81
20.	29.00	35.66	1544.78
30.	26.57	36.05	1540.09
40.	25.53	36.19	1538.05
50.	24.99	36.22	1536.98
60.	23.65	36.42	1534.18
70.	22.95	36.23	1532.40
80.	22.50	36.22	1531.43
90.	21.90	36.22	1530.07



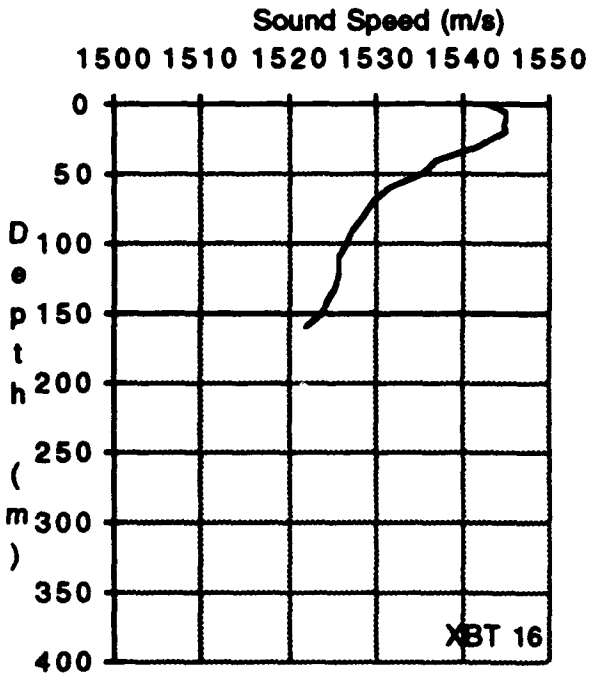
XBT 15

28.6070	-85.3270	920922	30100
110000	18	4	15
155.6	156	ACT I	R/V 3
0.	27.23	35.67	1540.66
5.	29.30	35.50	1544.99
10.	29.30	35.39	1544.96
15.	29.20	35.39	1544.83
20.	29.20	35.45	1544.98
30.	27.17	35.78	1541.13
40.	25.13	35.85	1536.75
50.	23.64	35.95	1533.46
60.	22.65	36.06	1531.29
70.	21.60	36.36	1529.12
80.	21.35	36.82	1529.16
90.	21.10	36.24	1528.01
100.	21.00	36.25	1527.91
110.	20.90	36.25	1527.82
120.	20.80	36.25	1527.72
130.	20.70	36.25	1527.61
140.	20.60	36.23	1527.49
150.	20.60	36.23	1527.66



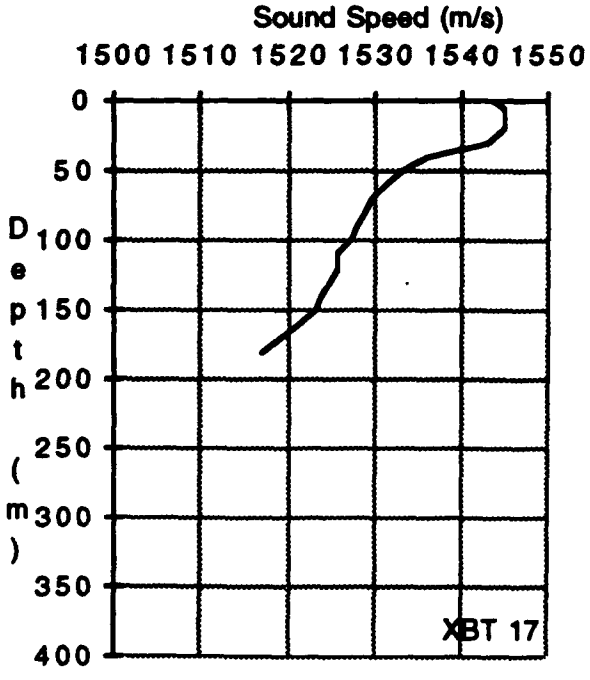
XBT 16

28.4635	-85.3272	920922	40300
110000	19	4	16
178.9	176	ACT I	R/V 3
0.	28.25	35.74	1542.95
5.	29.30	35.57	1545.06
10.	29.30	35.39	1544.96
15.	29.20	35.33	1544.77
20.	29.20	35.41	1544.94
30.	27.33	35.80	1541.50
40.	25.20	35.96	1537.02
50.	24.41	36.01	1535.39
60.	22.70	36.24	1531.62
70.	21.84	36.29	1529.67
80.	21.30	36.32	1528.46
90.	20.83	36.35	1527.41
100.	20.50	36.30	1526.64
110.	20.10	36.31	1525.74
120.	20.00	36.34	1525.67
130.	19.80	36.38	1525.33
140.	19.40	36.44	1524.47
150.	19.04	36.64	1523.88
160.	18.57	36.11	1522.09



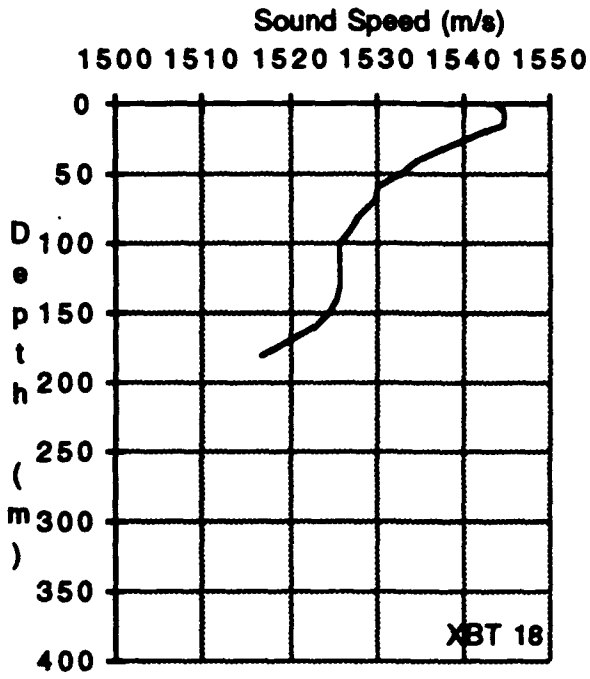
XBT 17

28.5402	-85.4651	920922	60000
110000	20	4	17
190.9	188	ACT I	R/V 3
0.	28.57	35.74	1543.62
5.	29.30	35.57	1545.06
10.	29.35	35.39	1545.07
15.	29.30	35.33	1544.98
20.	29.20	35.41	1544.94
30.	27.93	35.80	1542.81
40.	24.80	35.96	1536.09
50.	23.46	36.01	1533.08
60.	22.60	36.24	1531.37
70.	21.90	36.29	1529.82
80.	21.40	36.32	1528.72
90.	21.00	36.35	1527.87
100.	20.70	36.30	1527.18
110.	20.10	36.31	1525.74
120.	20.00	36.34	1525.67
130.	19.60	36.38	1524.78
140.	19.21	36.44	1523.95
150.	18.80	36.64	1523.19
160.	18.37	36.11	1521.52
180.	16.70	36.11	1516.95



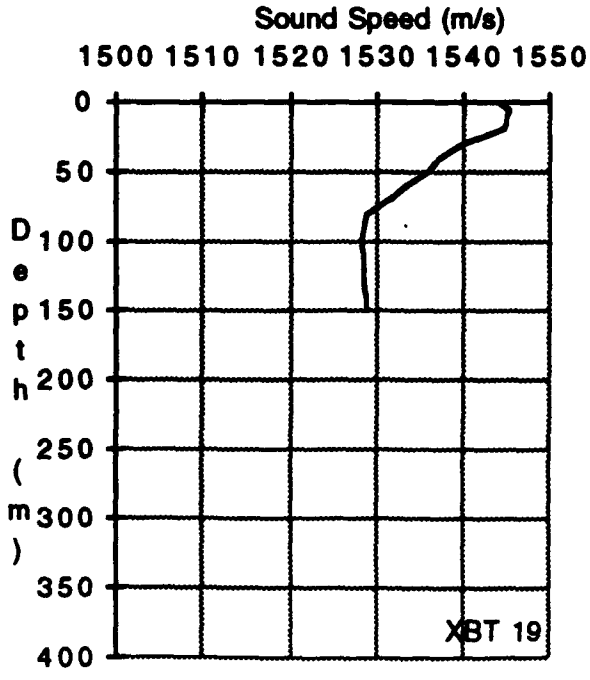
XBT 18

28.6629	-85.6020	920922	70600
110000	20	4	18
197.6	194	ACT I	R/V 3
0.	28.58	35.74	1543.66
5.	29.10	35.57	1544.65
10.	29.10	35.39	1544.54
15.	29.18	35.33	1544.74
20.	28.23	35.41	1542.89
30.	25.83	35.80	1538.14
40.	24.23	35.96	1534.74
50.	23.34	36.01	1532.80
60.	22.10	36.24	1530.10
70.	21.90	36.29	1529.82
80.	21.05	36.32	1527.81
90.	20.70	36.35	1527.07
100.	20.10	36.30	1525.56
110.	20.10	36.31	1525.74
120.	20.00	36.34	1525.67
130.	19.90	36.38	1525.61
140.	19.70	36.44	1525.30
150.	19.30	36.64	1524.59
160.	18.90	36.11	1523.02
180.	16.60	36.11	1516.65



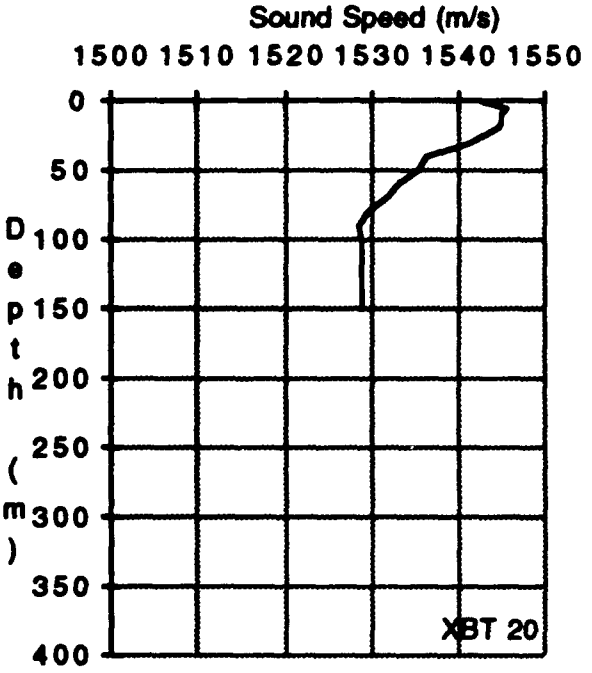
XBT 19

28.6207	-85.2992	920922	140317
110000	18	4	19
153.4	150	ACT I	R/V 3
0.	28.76	35.74	1544.03
5.	29.43	35.57	1545.33
10.	29.30	35.39	1544.96
15.	29.30	35.33	1544.98
20.	29.10	35.41	1544.73
30.	26.56	35.80	1539.79
40.	25.30	35.96	1537.26
50.	24.70	36.01	1536.07
60.	23.50	36.24	1533.61
70.	22.60	36.29	1531.60
80.	21.39	36.32	1528.69
90.	21.20	36.35	1528.39
100.	21.10	36.30	1528.23
110.	21.10	36.31	1528.41
120.	21.10	36.34	1528.62
130.	21.00	36.38	1528.56
140.	21.00	36.44	1528.79
150.	20.90	36.64	1528.93



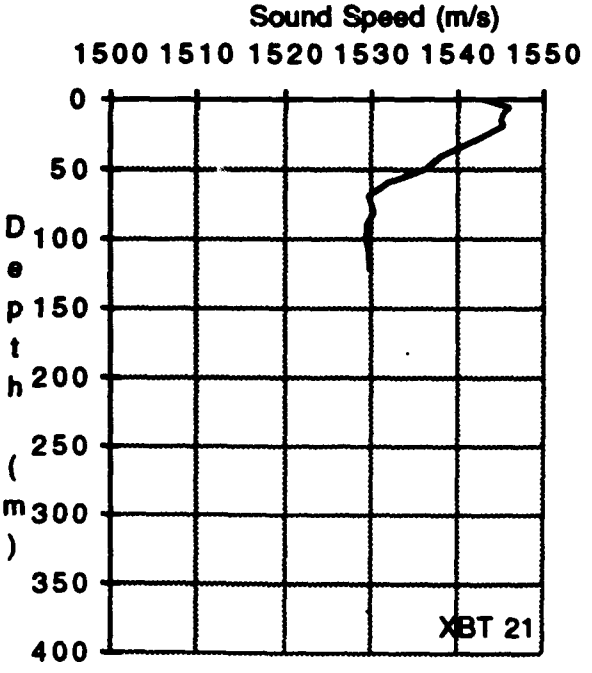
XBT 20

28.6210	-85.3020	920922	210151
110000	18	4	20
153.7	151	ACT I	R/V 3
0.	28.03	35.67	1542.40
5.	29.60	35.50	1545.61
10.	29.30	35.39	1544.96
15.	29.30	35.39	1545.04
20.	29.10	35.45	1544.77
30.	27.20	35.78	1541.20
40.	24.93	35.85	1536.28
50.	24.40	35.95	1535.29
60.	23.45	36.06	1533.28
70.	22.65	36.36	1531.80
80.	21.45	36.82	1529.42
90.	21.30	36.24	1528.53
100.	21.30	36.25	1528.70
110.	21.30	36.25	1528.87
120.	21.20	36.25	1528.78
130.	21.20	36.25	1528.94
140.	21.10	36.23	1528.82
150.	21.00	36.23	1528.72



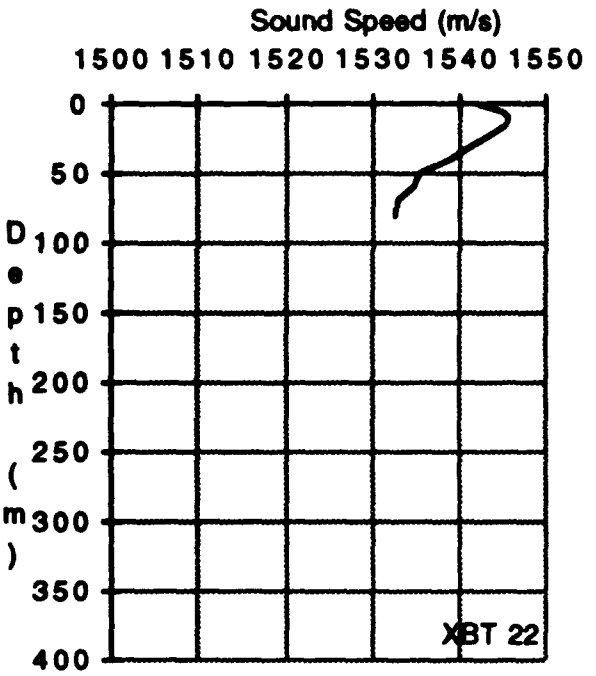
XBT 21

28.6857	-85.2380	920923	144611
110000	15	4	21
128.9	129	ACT I	R/V 3
0.	28.34	35.67	1543.07
5.	29.70	35.50	1545.82
10.	29.41	35.39	1545.20
15.	29.30	35.39	1545.04
20.	29.32	35.45	1545.23
30.	27.33	35.78	1541.50
40.	25.80	35.85	1538.29
50.	24.84	35.95	1536.34
60.	22.95	36.06	1532.04
70.	21.90	36.36	1529.89
80.	21.80	36.82	1530.33
90.	21.60	36.24	1529.32
100.	21.60	36.25	1529.48
110.	21.60	36.25	1529.65
120.	21.60	36.25	1529.82



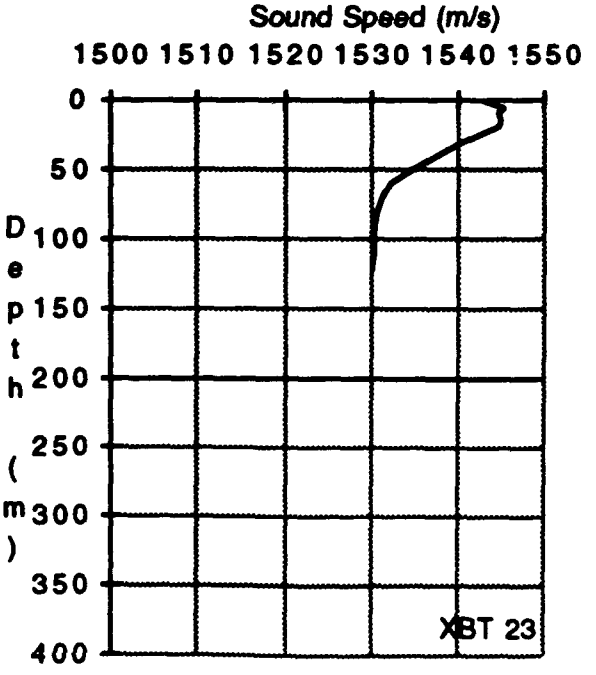
XBT 22

28.6078	-85.0090	920924	20302
110000	11	4	22
8.4	81	ACT I	R/V 3
0.	28.03	35.21	1541.91
5.	29.50	35.21	1545.10
10.	29.40	35.78	1545.59
15.	29.30	35.57	1545.23
20.	28.82	35.66	1544.39
30.	27.13	36.05	1541.35
40.	25.83	36.19	1538.74
50.	24.34	36.22	1535.46
60.	23.85	36.42	1534.66
70.	23.10	36.23	1532.78
80.	23.00	36.22	1532.68



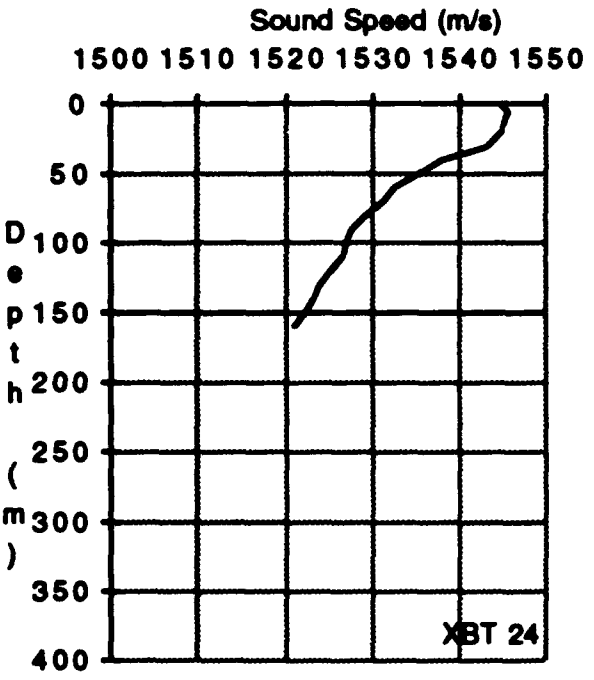
XBT 23

28.5919	-85.0110	920924	30104
110000	15	4	23
123.9	121	ACT I	R/V 3
0.	28.25	35.74	1542.95
5.	29.40	35.57	1545.27
10.	29.11	35.39	1544.57
15.	29.30	35.33	1544.98
20.	29.10	35.41	1544.73
30.	26.83	35.80	1540.40
40.	25.43	35.96	1537.57
50.	24.14	36.01	1534.74
60.	23.00	36.24	1532.37
70.	22.45	36.29	1531.22
80.	22.10	36.32	1530.53
90.	22.00	36.35	1530.47
100.	21.90	36.30	1530.32
110.	21.80	36.31	1530.24
120.	21.63	36.34	1530.01



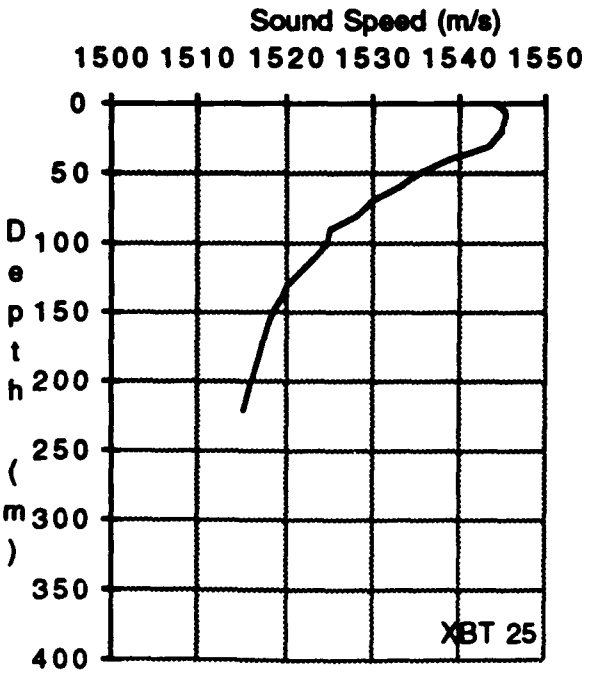
XBT 24

28.4015	-85.2530	920924	50906
110000	19	4	24
175.7	173	ACT I	R/V 3
0.	29.08	35.74	1544.71
5.	29.50	35.57	1545.48
10.	29.40	35.39	1545.17
15.	29.28	35.33	1544.95
20.	29.20	35.41	1544.94
30.	28.01	35.80	1542.99
40.	25.60	35.96	1537.95
50.	24.41	36.01	1535.39
60.	23.10	36.24	1532.62
70.	22.44	36.29	1531.20
80.	21.50	36.32	1528.98
90.	20.93	36.35	1527.68
100.	20.60	36.30	1526.91
110.	20.40	36.31	1526.55
120.	19.74	36.34	1524.97
130.	19.30	36.38	1523.95
140.	19.00	36.44	1523.35
150.	18.50	36.64	1522.34
160.	18.20	36.11	1521.03



XBT 25

28.2960	-85.3688	920924	60408
110000	22	4	25
237.8	235	ACT I	R/V 3
0.	28.87	35.45	1543.94
5.	29.50	35.49	1545.40
10.	29.50	35.39	1545.37
15.	29.30	35.29	1544.93
20.	29.30	35.30	1545.03
30.	28.33	35.70	1543.57
40.	26.00	35.88	1538.78
50.	24.40	35.89	1535.23
60.	23.40	36.14	1533.25
70.	21.99	36.22	1529.95
80.	21.30	36.09	1528.20
90.	20.13	36.09	1525.24
100.	19.90	36.14	1524.83
110.	19.40	36.11	1523.58
120.	18.70	36.05	1521.72
130.	18.10	36.04	1520.16
140.	17.80	36.03	1519.44
150.	17.50	36.00	1518.69
160.	17.20	36.09	1518.08
180.	16.90	35.74	1517.10
200.	16.50	35.71	1516.18
220.	16.10	35.71	1515.29

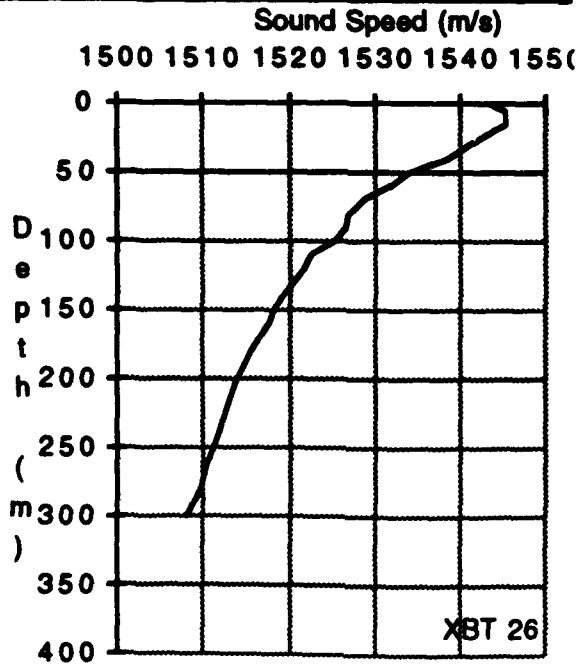


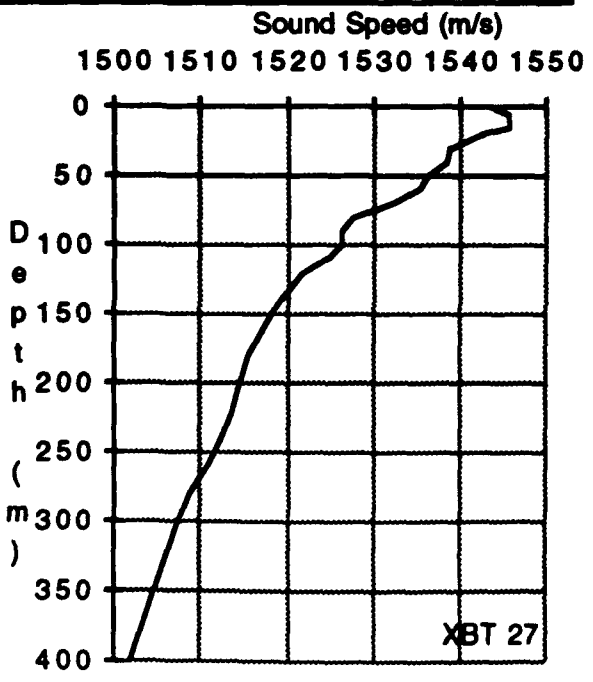
XBT 26

28.2022	-85.4683	920924	70805
110000	26	4	26
342.6	340	ACT I	R/V 3
0.	28.66	35.45	1543.50
5.	29.50	35.49	1545.40
10.	29.50	35.39	1545.37
15.	29.40	35.29	1545.14
20.	28.90	35.30	1544.19
30.	27.06	35.70	1540.80
40.	25.80	35.88	1538.32
50.	23.96	35.89	1534.16
60.	22.90	36.14	1532.01
70.	21.54	36.22	1528.81
80.	20.80	36.09	1526.88
90.	20.60	36.09	1526.51
100.	20.10	36.14	1525.38
110.	19.10	36.11	1522.75
120.	18.64	36.05	1521.56
130.	18.20	36.04	1520.45
140.	17.70	36.03	1519.15
160.	17.10	36.09	1517.79
180.	16.40	35.74	1515.59
200.	15.80	35.71	1514.04
220.	15.30	35.71	1512.81
240.	14.90	35.71	1511.88
260.	14.40	35.71	1510.61
280.	14.00	35.71	1509.65
300.	13.40	35.71	1508.01

XBT 27

28.0108	-85.5847	920924	80808
110000	27	4	27
478.2	475	ACT I	R/V 3
0.	28.66	35.45	1543.50
5.	29.60	35.49	1545.60
10.	29.60	35.39	1545.58
15.	29.60	35.29	1545.56
20.	28.30	35.30	1542.91
30.	26.20	35.70	1538.87
40.	25.90	35.88	1538.55
50.	24.80	35.89	1536.18
60.	24.20	36.14	1535.20
70.	23.04	36.22	1532.62
80.	21.07	36.09	1527.60
90.	20.50	36.09	1526.24
100.	20.50	36.14	1526.46
110.	19.80	36.11	1524.69
120.	18.70	36.05	1521.72
130.	18.20	36.04	1520.45
140.	17.71	36.03	1519.19
160.	16.90	36.09	1517.19
180.	16.40	35.74	1515.59
200.	16.00	35.71	1514.66
220.	15.60	35.71	1513.75
240.	15.05	35.71	1512.36
260.	14.47	35.71	1510.84
300.	13.20	35.71	1507.34
400.	11.10	35.71	1501.80



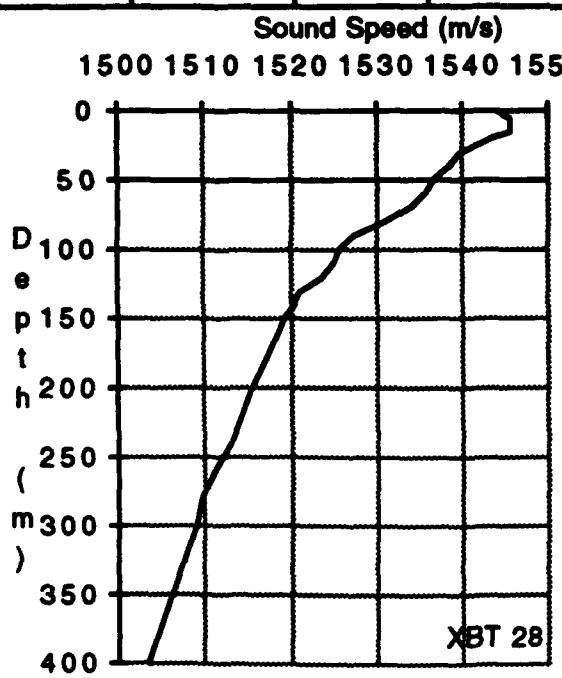


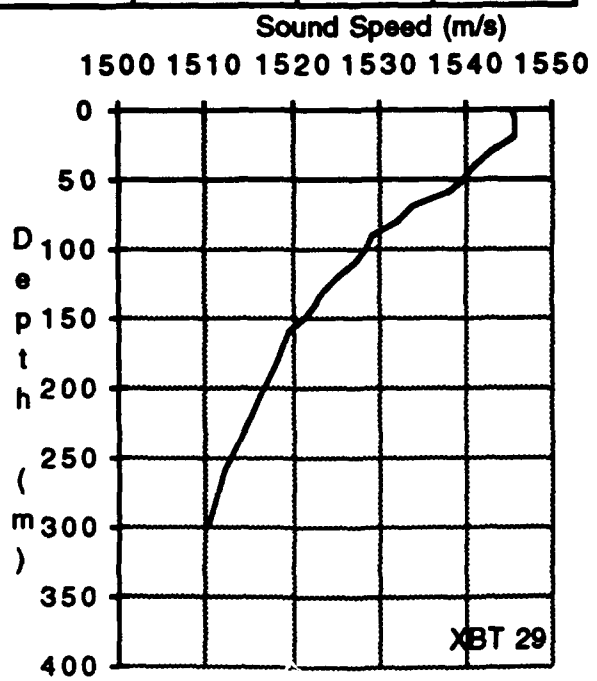
XBT 28

28.0648	-85.4398	920924	90101
110000	27	4	28
452.9	450	ACT I	R/V 3
0.	28.87	35.45	1543.94
5.	29.60	35.49	1545.60
10.	29.60	35.39	1545.58
15.	29.60	35.29	1545.56
20.	28.70	35.30	1543.76
30.	26.50	35.70	1539.55
40.	25.80	35.88	1538.32
50.	25.00	35.89	1536.65
60.	24.40	36.14	1535.67
70.	23.64	36.22	1534.10
80.	22.27	36.09	1530.71
90.	20.83	36.09	1527.12
100.	20.20	36.14	1525.65
110.	20.00	36.11	1525.23
120.	19.30	36.05	1523.41
130.	18.40	36.04	1521.02
140.	18.10	36.03	1520.31
150.	17.70	36.00	1519.28
160.	17.40	36.09	1518.68
180.	16.90	35.74	1517.10
200.	16.30	35.71	1515.58
220.	15.80	35.71	1514.37
260.	14.60	35.71	1511.25
300.	13.70	35.71	1509.00
400.	11.50	35.71	1503.20

XBT 29

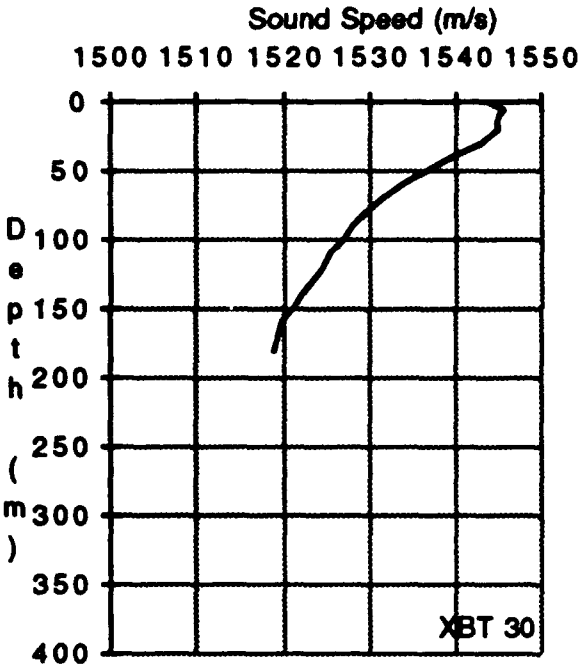
28.0290	-85.1660	920924	103214
110000	26	4	29
318.2	315	ACT I	R/V 3
0.	29.28	35.74	1545.13
5.	29.60	35.57	1545.69
10.	29.60	35.39	1545.59
15.	29.60	35.33	1545.61
20.	29.50	35.41	1545.57
30.	27.86	35.80	1542.65
40.	26.90	35.96	1540.90
50.	26.20	36.01	1539.55
60.	25.30	36.24	1537.90
70.	23.44	36.29	1533.69
80.	22.70	36.32	1532.05
90.	21.50	36.35	1529.18
100.	21.20	36.30	1528.50
110.	20.70	36.31	1527.35
120.	19.84	36.34	1525.24
130.	19.18	36.38	1523.63
140.	18.70	36.44	1522.51
150.	18.20	36.64	1521.49
160.	17.70	36.11	1519.58
180.	17.10	36.11	1518.14
200.	16.47	36.11	1516.59
220.	15.90	36.11	1515.17
240.	15.30	36.11	1513.64
260.	14.70	36.11	1512.07
300.	13.90	36.11	1510.15





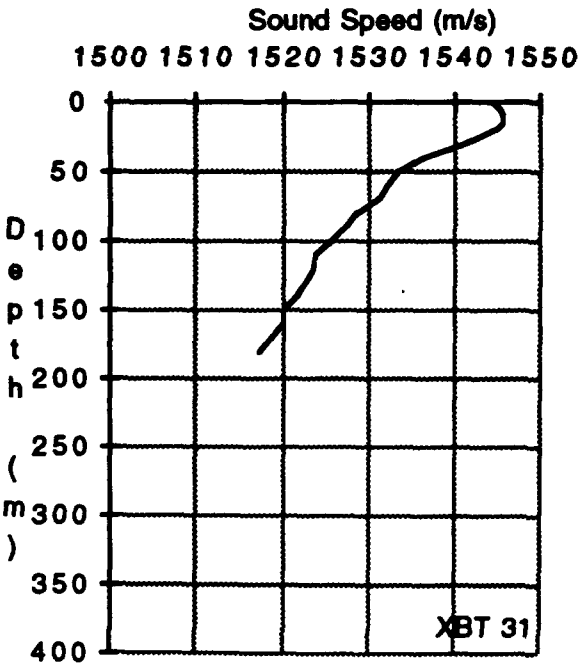
XBT 30

28.1624	-85.0347	920924	113524
110000	20	4	30
192.9	190	ACT I	R/V 3
0.	28.66	35.74	1543.81
5.	29.50	35.57	1545.48
10.	29.25	35.39	1544.86
15.	29.20	35.33	1544.77
20.	29.20	35.41	1544.94
30.	27.86	35.80	1542.65
40.	26.20	35.96	1539.32
50.	24.90	36.01	1536.55
60.	23.60	36.24	1533.85
70.	22.54	36.29	1531.46
80.	21.69	36.32	1529.47
90.	21.00	36.35	1527.87
100.	20.57	36.30	1526.82
110.	20.00	36.31	1525.47
120.	19.60	36.34	1524.58
130.	19.08	36.38	1523.35
140.	18.50	36.44	1521.94
150.	18.10	36.64	1521.20
160.	17.80	36.11	1519.87
180.	17.30	36.11	1518.74



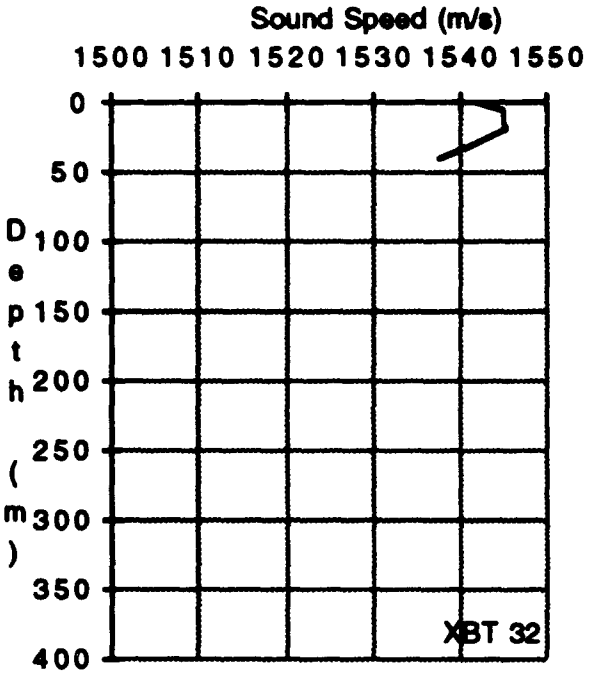
XBT 31

28.5076	-85.4340	920924	200209
110000	20	4	31
193.3	190	ACT I	R/V 3
0.	29.08	35.45	1544.40
5.	29.50	35.49	1545.40
10.	29.60	35.39	1545.58
15.	29.60	35.29	1545.56
20.	29.22	35.30	1544.86
30.	27.10	35.70	1540.89
40.	24.93	35.88	1536.31
50.	23.70	35.89	1533.54
60.	23.00	36.14	1532.26
70.	22.50	36.22	1531.26
80.	21.45	36.09	1528.59
90.	20.85	36.09	1527.17
100.	20.24	36.14	1525.76
110.	19.53	36.11	1523.95
120.	19.40	36.05	1523.69
130.	19.00	36.04	1522.72
140.	18.60	36.03	1521.74
150.	18.00	36.00	1520.15
160.	17.90	36.09	1520.14
180.	17.00	35.74	1517.40



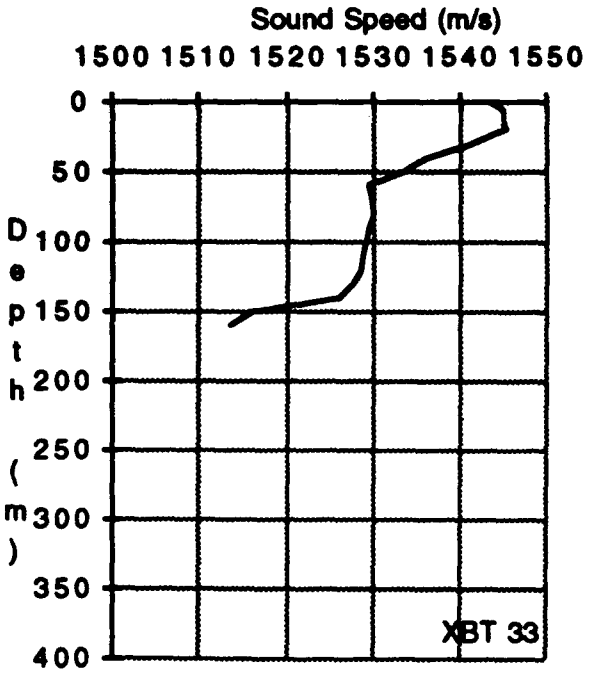
XBT 32

28.6517	-85.4360	920924	224509
110000	7	4	32
42.1	175	ACT I	R/V 3
0.	27.85	35.67	1542.01
5.	29.30	35.50	1544.99
10.	29.30	35.39	1544.96
15.	29.30	35.39	1545.04
20.	29.30	35.45	1545.19
30.	27.17	35.78	1541.13
40.	25.43	35.85	1537.44



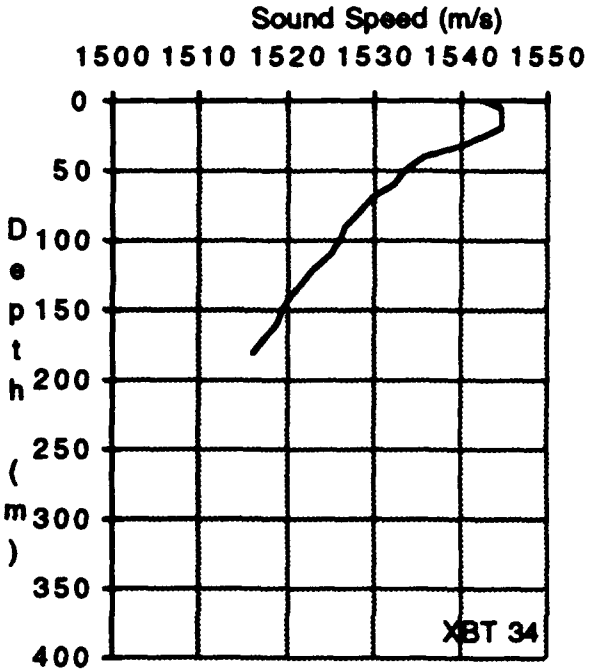
XBT 33

28.6372	-85.4330	920925	70805
110000	19	4	33
172.3	169	ACT I	R/V 3
0.	28.47	35.67	1543.33
5.	29.30	35.50	1544.99
10.	29.30	35.39	1544.96
15.	29.30	35.39	1545.04
20.	29.30	35.45	1545.19
30.	27.07	35.78	1540.91
40.	24.83	35.85	1536.04
50.	23.64	35.95	1533.46
60.	21.95	36.06	1529.51
70.	21.80	36.36	1529.64
80.	21.75	36.82	1530.20
90.	21.60	36.24	1529.32
100.	21.50	36.25	1529.22
110.	21.33	36.25	1528.96
120.	21.10	36.25	1528.51
130.	20.70	36.25	1527.61
140.	20.01	36.23	1525.91
150.	16.50	36.23	1515.99
160.	15.70	36.23	1513.71



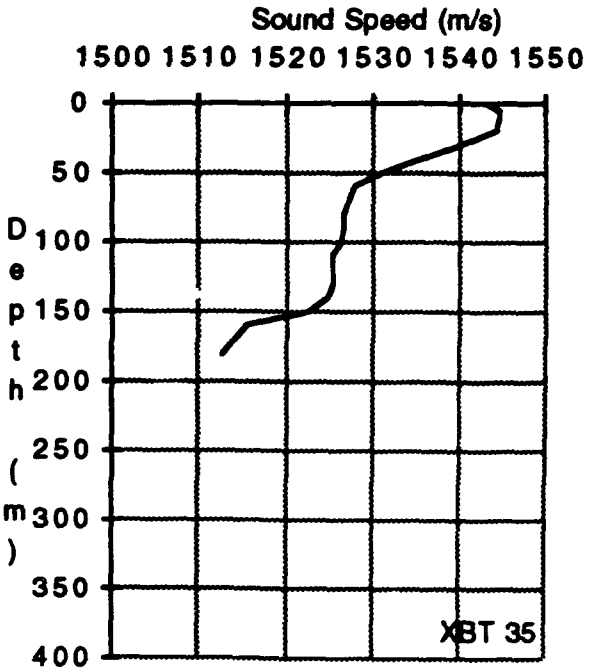
XBT 34

28.5146	-85.4297	920925	90505
110000	20	4	34
193.3	190	ACT I	R/V 3
0.	28.27	35.45	1542.66
5.	29.20	35.49	1544.77
10.	29.20	35.39	1544.74
15.	29.12	35.29	1544.55
20.	29.10	35.30	1544.61
30.	26.97	35.70	1540.59
40.	24.70	35.88	1535.76
50.	23.64	35.89	1533.40
60.	22.95	36.14	1532.14
70.	21.85	36.22	1529.60
80.	21.25	36.09	1528.07
90.	20.60	36.09	1526.51
100.	20.30	36.14	1525.92
110.	20.00	36.11	1525.23
120.	19.10	36.05	1522.85
130.	18.60	36.04	1521.59
140.	18.10	36.03	1520.31
150.	17.80	36.00	1519.57
160.	17.50	36.09	1518.97
180.	16.60	35.74	1516.20



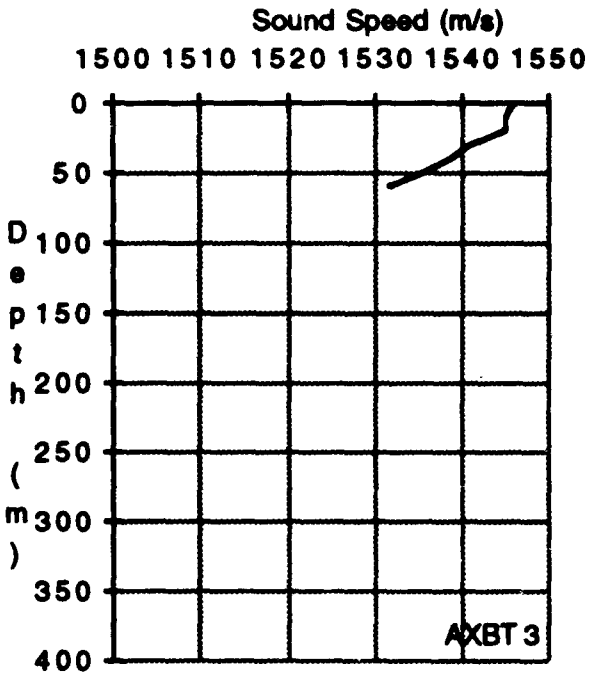
XBT 35

28.6208	-85.5701	920925	142352
110000	20	4	35
192.9	190	ACT I	R/V 3
0.	28.44	35.45	1543.04
5.	29.10	35.49	1544.56
10.	29.10	35.39	1544.53
15.	29.08	35.29	1544.48
20.	29.00	35.30	1544.40
30.	26.50	35.70	1539.55
40.	24.50	35.88	1535.28
50.	22.70	35.89	1531.06
60.	21.30	36.14	1527.92
70.	20.96	36.22	1527.28
80.	20.70	36.09	1526.61
90.	20.60	36.09	1526.51
100.	20.40	36.14	1526.19
110.	20.10	36.11	1525.50
120.	20.00	36.05	1525.34
130.	20.00	36.04	1525.49
140.	19.70	36.03	1524.82
150.	18.83	36.00	1522.52
160.	16.37	36.09	1515.60
180.	15.50	35.74	1512.82



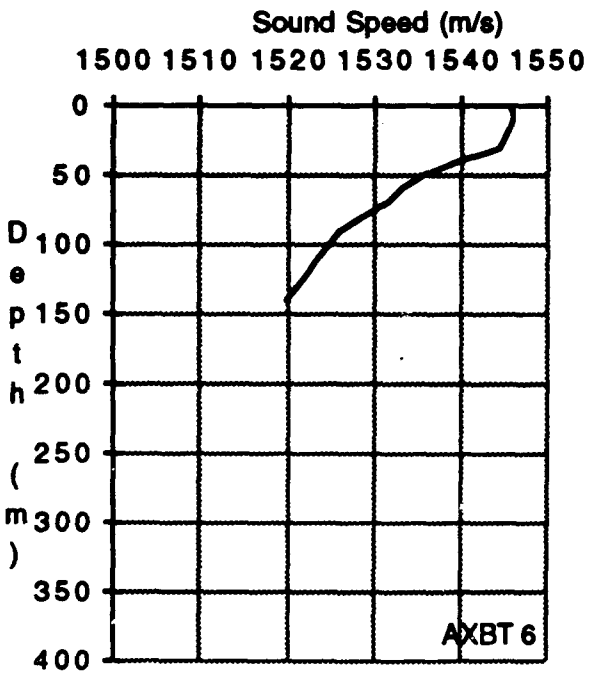
AXBT 3

28.4180 120000 -99.9	-85.1880 9 -99	920922 4 ACT I	12900 3 JE212
0.	29.66	35.59	1545.76
5.	29.39	35.74	1545.43
10.	29.15	35.79	1545.08
15.	29.11	35.79	1545.06
20.	29.06	35.79	1545.05
30.	26.91	35.84	1540.63
40.	25.62	36.48	1538.58
50.	24.14	36.66	1535.47
60.	22.55	36.58	1531.62



AXBT 6

28.1690 120000 -99.9	-85.3420 17 -99	920922 4 ACT I	13700 6 JE212
0.	29.63	35.59	1545.69
5.	29.65	35.74	1545.97
10.	29.57	35.79	1545.95
15.	29.38	35.79	1545.63
20.	29.19	35.79	1545.32
30.	28.59	35.84	1544.27
40.	25.96	36.48	1539.35
50.	24.21	36.66	1535.62
60.	23.22	36.58	1533.29
70.	22.45	36.73	1531.72
80.	21.14	36.74	1528.53
90.	20.21	36.72	1526.18
100.	19.69	36.63	1524.83
110.	19.17	36.61	1523.53
120.	18.68	36.53	1522.23
130.	18.20	36.46	1520.96
140.	17.73	36.43	1519.71

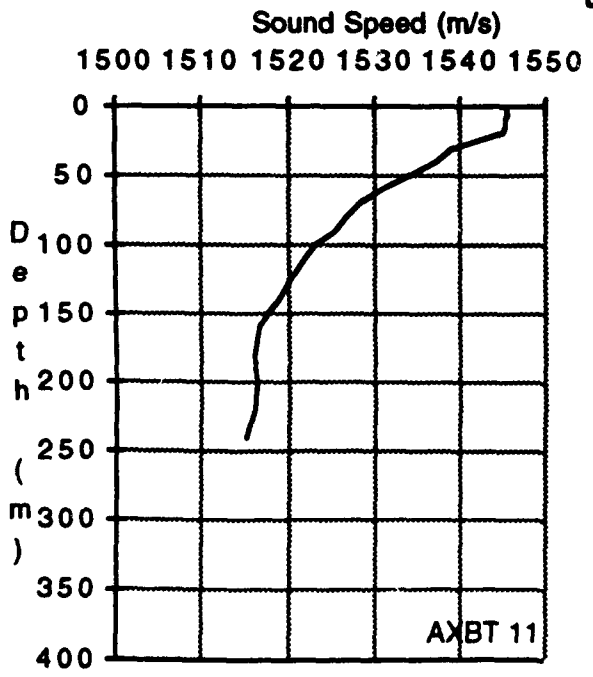


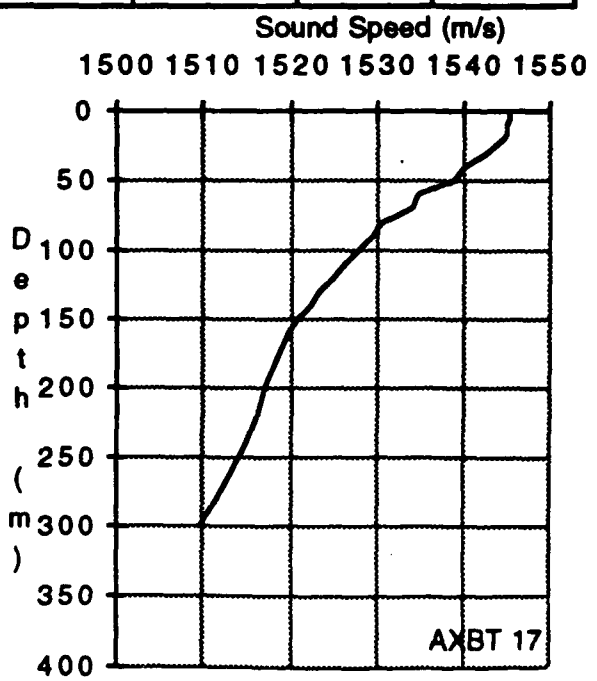
AXBT 11

28.4570	-85.6770	920922	15900
120000	23	4	11
-99.9	-99	ACT I	JE212
0.	29.49	35.59	1545.40
5.	29.39	35.74	1545.44
10.	29.30	35.79	1545.38
15.	29.20	35.79	1545.26
20.	29.04	35.79	1545.02
30.	26.18	35.84	1538.98
40.	25.05	36.48	1537.26
50.	23.53	36.66	1533.98
60.	22.31	36.58	1531.01
70.	21.25	36.73	1528.63
80.	20.44	36.74	1526.66
90.	19.88	36.72	1525.30
100.	19.08	36.63	1523.16
110.	18.58	36.61	1521.90
120.	18.18	36.53	1520.82
130.	17.79	36.46	1519.77
140.	17.40	36.43	1518.75
150.	17.00	36.43	1517.74
160.	16.60	36.37	1516.64
180.	16.39	36.29	1516.22
200.	16.32	36.29	1516.35
220.	16.15	36.29	1516.16
240.	15.72	36.29	1515.17

AXBT 17

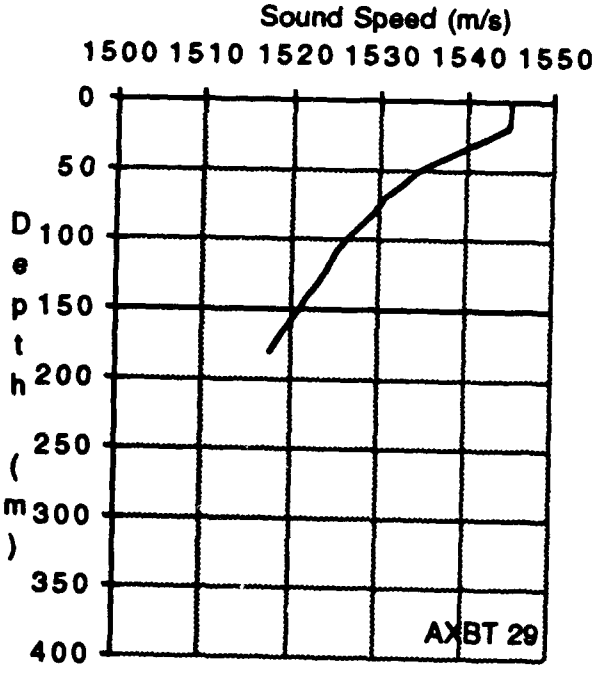
27.9570	-85.1220	920922	20700
120000	26	4	17
-99.9	-99	ACT I	JE212
0.	29.37	35.59	1545.15
5.	29.25	35.74	1545.15
10.	29.13	35.79	1545.04
15.	29.02	35.79	1544.87
20.	28.90	35.79	1544.71
30.	27.72	35.84	1542.40
40.	26.24	36.48	1540.00
50.	25.53	36.66	1538.72
60.	23.80	36.58	1534.72
70.	23.44	36.73	1534.19
80.	21.87	36.74	1530.42
90.	21.38	36.72	1529.30
100.	20.86	36.63	1527.99
110.	20.24	36.61	1526.46
120.	19.61	36.53	1524.83
130.	18.99	36.46	1523.18
140.	18.65	36.43	1522.35
150.	18.08	36.43	1520.88
180.	17.12	36.29	1518.41
200.	16.55	36.29	1517.04
220.	16.10	36.29	1515.99
240.	15.64	36.29	1514.92
260.	14.98	36.29	1513.19
300.	13.68	36.29	1509.66





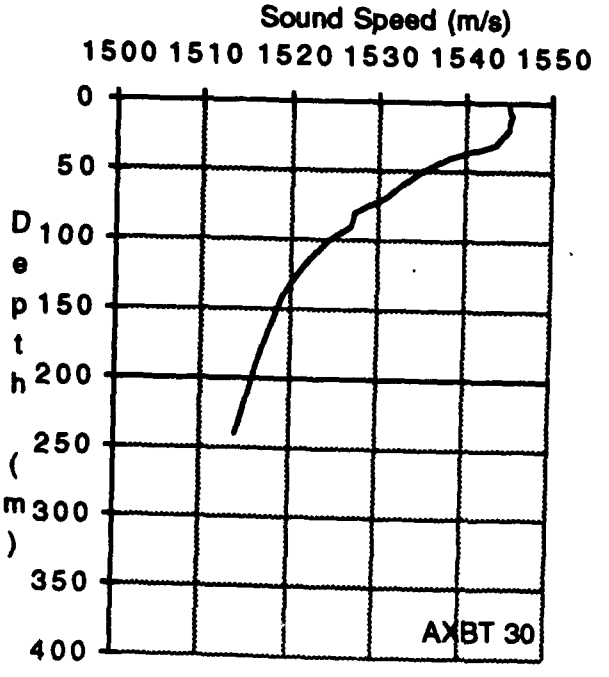
AXBT 29

28.4900	-85.4680	920922	25100
120000	20	4	29
-99.9	-99	ACT I	JE212
0.	29.27	35.59	1544.94
5.	29.19	35.74	1545.01
10.	29.10	35.79	1544.97
15.	29.02	35.79	1544.87
20.	28.93	35.79	1544.79
30.	27.11	35.84	1541.07
40.	25.10	36.48	1537.38
50.	23.65	36.66	1534.29
60.	22.99	36.58	1532.72
70.	22.08	36.73	1530.77
80.	21.49	36.74	1529.45
90.	20.87	36.72	1527.97
100.	20.20	36.63	1526.23
110.	19.79	36.61	1525.24
120.	19.37	36.53	1524.17
130.	18.95	36.46	1523.09
140.	18.54	36.43	1522.04
150.	18.12	36.43	1521.01
160.	17.67	36.37	1519.79
180.	16.81	36.29	1517.49



AXBT 30

28.3200	-85.5420	920922	30300
120000	23	4	30
-99.9	-99	ACT I	JE212
0.	29.22	35.59	1544.84
5.	29.22	35.74	1545.08
10.	29.21	35.79	1545.19
15.	29.12	35.79	1545.09
20.	29.04	35.79	1545.01
30.	28.12	35.84	1543.28
40.	25.47	36.48	1538.24
50.	24.02	36.66	1535.18
60.	23.01	36.58	1532.79
70.	22.21	36.73	1531.12
80.	20.72	36.74	1527.41
90.	20.48	36.72	1526.93
100.	19.58	36.63	1524.53
110.	18.96	36.61	1522.97
120.	18.39	36.53	1521.40
130.	17.91	36.46	1520.10
140.	17.50	36.43	1519.05
150.	17.29	36.43	1518.59
160.	17.08	36.37	1518.06
200.	16.14	36.29	1515.81
240.	15.33	36.29	1513.95

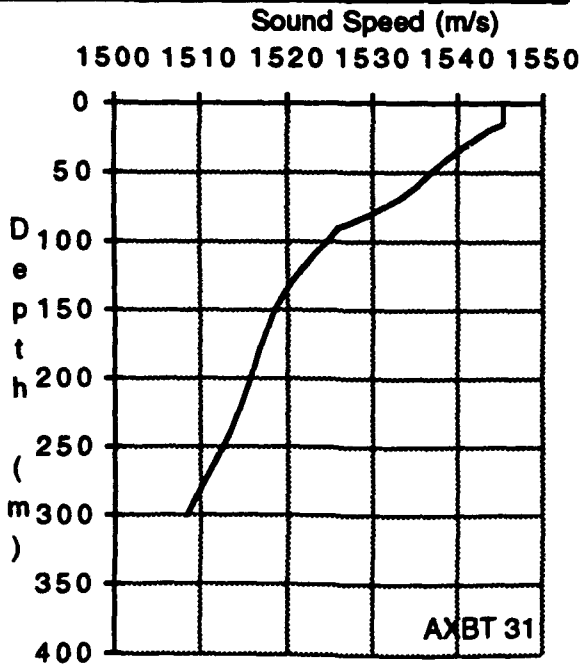


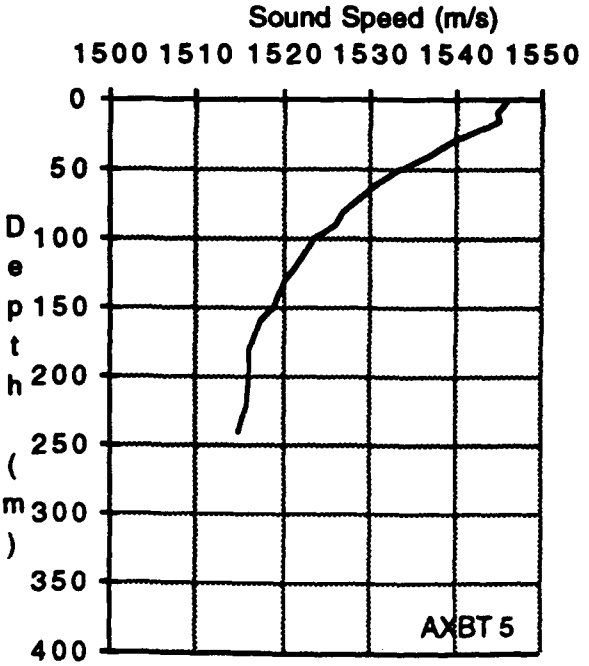
AXBT 31

27.9080	-85.7380	920922	32200
120000	26	4	31
-99.9	-99	ACT I	JE212
0.	29.45	35.59	1545.32
5.	29.37	35.74	1545.40
10.	29.30	35.79	1545.38
15.	29.22	35.79	1545.29
20.	28.42	35.79	1543.70
30.	27.02	35.84	1540.87
40.	25.71	36.48	1538.78
50.	24.75	36.66	1536.91
60.	24.01	36.58	1535.21
70.	23.08	36.73	1533.30
80.	21.55	36.74	1529.60
90.	20.10	36.72	1525.89
100.	19.67	36.63	1524.78
110.	19.09	36.61	1523.32
120.	18.47	36.53	1521.63
130.	17.98	36.46	1520.33
140.	17.62	36.43	1519.39
150.	17.31	36.43	1518.65
160.	17.05	36.37	1517.96
180.	16.59	36.29	1516.83
220.	15.60	36.29	1514.47
240.	15.11	36.29	1513.26
260.	14.54	36.29	1511.79
300.	13.28	36.29	1508.33

AXBT 5

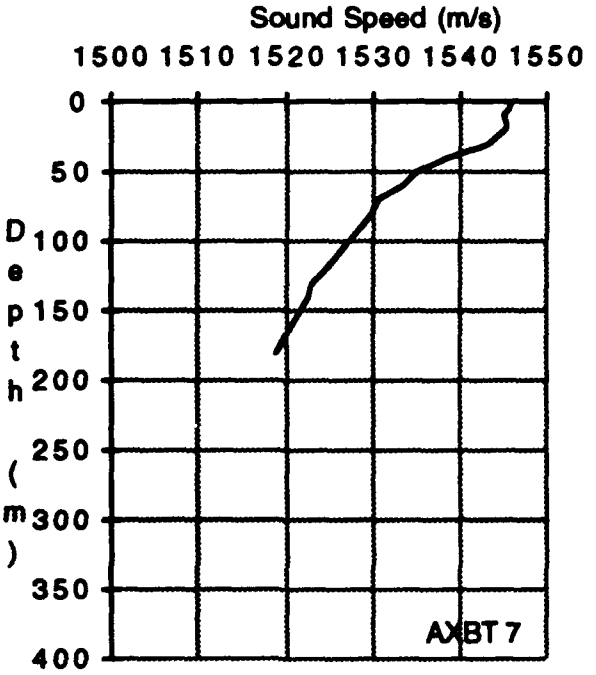
28.5000	-85.6870	920923	223300
110000	23	4	5
-99.9	-99	ACT I	JE232
0.	29.67	35.59	1545.78
5.	29.28	35.74	1545.21
10.	28.89	35.79	1544.53
15.	29.05	35.79	1544.94
20.	28.49	35.79	1543.85
30.	26.37	35.84	1539.42
40.	24.92	36.48	1536.95
50.	23.31	36.66	1533.44
60.	22.30	36.58	1531.00
70.	21.49	36.73	1529.25
80.	20.53	36.74	1526.90
90.	20.15	36.72	1526.03
100.	19.21	36.63	1523.51
110.	18.79	36.61	1522.49
120.	18.38	36.53	1521.38
130.	17.96	36.46	1520.26
140.	17.70	36.43	1519.64
150.	17.39	36.43	1518.88
160.	16.87	36.37	1517.42
180.	16.38	36.29	1516.19
200.	16.19	36.29	1515.94
220.	15.99	36.29	1515.67
240.	15.62	36.29	1514.85





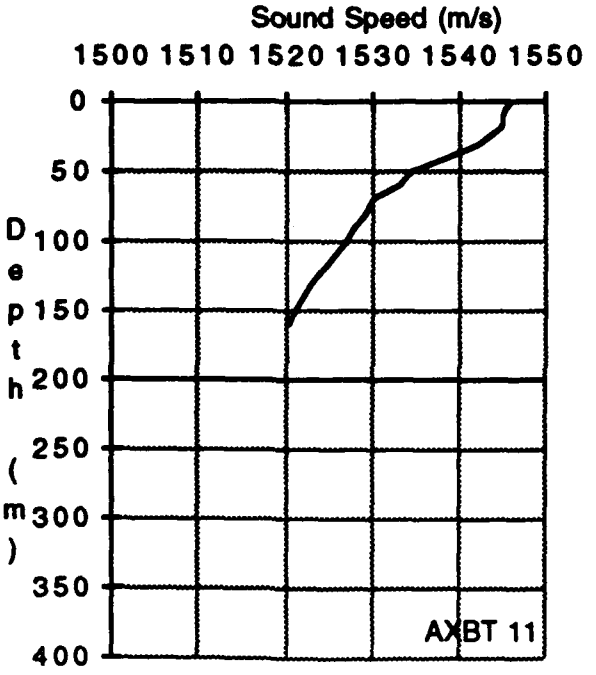
AXBT 7

28.3730	-85.2880	920923	230300
110000	20	4	7
-99.9	-99	ACT I	JE232
0.	29.69	35.59	1545.82
5.	29.41	35.74	1545.47
10.	29.17	35.79	1545.11
15.	29.16	35.79	1545.18
20.	29.16	35.79	1545.25
30.	28.10	35.84	1543.22
40.	25.52	36.48	1538.34
50.	23.93	36.66	1534.95
60.	23.34	36.58	1533.59
70.	22.08	36.73	1530.78
80.	21.56	36.74	1529.63
90.	21.05	36.72	1528.42
100.	20.53	36.63	1527.12
110.	20.01	36.61	1525.87
120.	19.47	36.53	1524.43
130.	18.93	36.46	1523.03
140.	18.72	36.43	1522.55
150.	18.38	36.43	1521.76
160.	18.02	36.37	1520.82
180.	17.30	36.29	1518.95



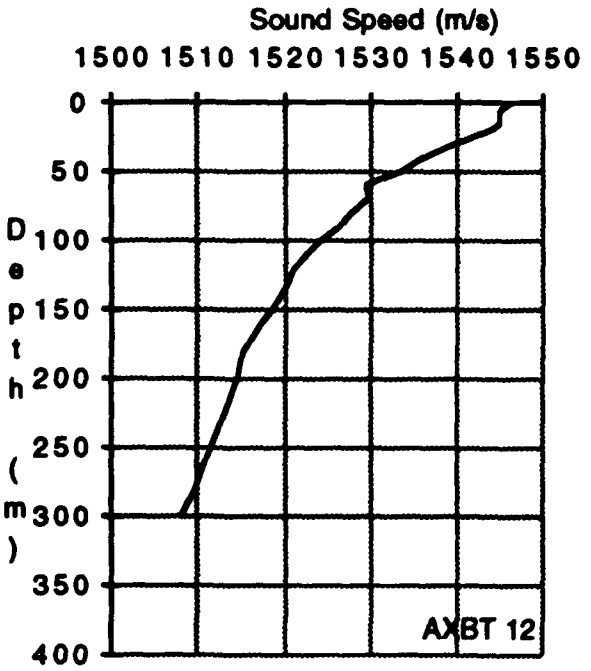
AXBT 11

28.3810	-85.3090	920923	235400
110000	19	4	11
-99.9	-99	ACT I	JE232
0.	29.75	35.59	1545.94
5.	29.27	35.74	1545.18
10.	29.13	35.79	1545.03
15.	29.00	35.79	1544.83
20.	28.86	35.79	1544.63
30.	27.62	35.84	1542.18
40.	25.50	36.48	1538.30
50.	23.71	36.66	1534.42
60.	23.15	36.58	1533.12
70.	21.86	36.73	1530.21
80.	21.35	36.74	1529.06
90.	20.88	36.72	1527.99
100.	20.42	36.63	1526.82
110.	19.96	36.61	1525.71
120.	19.41	36.53	1524.28
130.	18.85	36.46	1522.81
140.	18.52	36.43	1521.98
150.	18.18	36.43	1521.18
160.	17.84	36.37	1520.31



AXBT 12

28.3330	-85.7500	920924	300
110000	26	4	12
-99.9	-99	ACT I	JE232
0.	29.81	35.59	1546.07
5.	29.11	35.74	1544.85
10.	29.06	35.79	1544.88
15.	29.00	35.79	1544.84
20.	28.54	35.79	1543.96
30.	26.34	35.84	1539.35
40.	24.56	36.48	1536.10
50.	23.33	36.66	1533.50
60.	21.70	36.58	1529.45
70.	21.63	36.73	1529.63
80.	20.73	36.74	1527.45
90.	20.26	36.72	1526.33
100.	19.50	36.63	1524.31
110.	18.84	36.61	1522.62
120.	18.28	36.53	1521.10
130.	18.01	36.46	1520.41
140.	17.66	36.43	1519.52
150.	17.26	36.43	1518.50
160.	16.86	36.37	1517.40
180.	16.06	36.29	1515.21
200.	15.74	36.29	1514.57
220.	15.24	36.29	1513.33
240.	14.73	36.29	1512.07
260.	14.23	36.29	1510.78
280.	13.72	36.29	1509.47
300.	13.22	36.29	1508.14



APPENDIX E: METEOROLOGICAL DATA

Date decimal day	Pressure mb	Air Temp.C	Sea Surface Temp.°C	Wind Gusts m/s	Mean Wind m/s	Direction °T
20.0152	1011.3	28.92	27.25	0.00	0.00	0.0
20.0172	1011.3	28.76	26.75	0.00	0.00	0.0
20.3728	1011.9	26.36	27.00	2.40	3.52	184.2
20.3735	1011.9	26.36	27.00	11.68	3.52	63.3
20.3742	1011.9	26.36	26.00	0.00	0.00	0.0
20.3777	1011.9	26.36	26.00	0.00	0.00	0.0
20.3784	1011.9	26.36	26.00	0.64	0.00	46.4
20.3791	1011.9	26.36	26.25	11.84	6.56	115.3
20.3797	1011.9	26.36	26.25	11.84	6.56	4.2
20.4429	1012.6	26.36	26.75	0.00	0.00	0.0
20.4457	1012.6	26.36	26.50	0.00	0.00	0.0
20.4492	1012.6	26.36	26.00	0.00	0.00	0.0
20.5270	1014.9	27.96	28.00	0.00	0.00	0.0
20.5311	1014.9	27.96	28.00	0.00	0.00	0.0
20.5325	1014.9	28.12	28.25	0.00	0.00	0.0
20.5353	1014.9	28.12	28.25	0.00	0.00	0.0
20.8429	1012.9	29.24	29.50	0.32	0.00	0.0
20.8478	1012.8	29.24	29.50	0.00	0.00	0.0
20.8527	1012.8	29.24	29.75	0.00	0.00	0.0
20.9207	1012.5	29.40	29.50	0.00	0.00	0.0
20.9214	1012.5	29.40	29.75	0.00	0.00	0.0
21.0034	1011.6	29.40	26.75	0.00	0.00	0.0
21.0686	1013.5	29.72	26.50	0.00	0.00	0.0
21.0693	1013.5	29.72	26.50	0.00	0.00	16.9
21.0707	1013.5	29.72	26.50	0.00	0.00	0.0
21.0735	1013.7	29.72	26.50	0.00	0.00	0.0
21.3652	1012.3	28.92	26.75	1.28	1.60	0.0
21.3707	1012.5	28.92	26.75	1.12	1.60	0.0
21.3721	1012.5	28.92	26.75	0.96	1.44	0.0
21.4353	1013.1	28.76	26.50	0.00	0.00	0.0
21.4360	1013.1	28.76	26.75	5.12	2.56	7.0
21.4374	1013.1	28.76	26.50	0.00	0.00	0.0
21.4381	1013.2	28.76	26.50	1.92	0.80	95.6
21.4402	1013.2	28.76	26.50	0.32	0.80	0.0
21.5138	1014.6	28.76	27.25	0.00	0.00	0.0
21.5193	1014.7	28.76	27.25	0.00	0.00	0.0
21.5200	1014.7	28.76	27.25	0.48	0.00	274.2
21.5207	1014.7	28.76	27.25	0.00	0.00	0.0
21.5867	1015.5	28.76	29.00	0.00	0.00	0.0
21.5908	1015.3	28.76	28.75	0.48	1.12	0.0
21.8374	1013.2	29.40	28.75	0.00	0.00	0.0
21.8395	1013.4	29.40	29.00	0.00	0.32	0.0
21.8402	1013.4	29.40	29.00	0.00	0.32	0.0
21.8415	1013.4	29.40	29.00	0.00	0.32	0.0
21.8429	1013.4	29.40	29.00	0.64	0.32	0.0

APPENDIX E: METEOROLOGICAL DATA cont.

Date decimal day	Pressure mb	Air Temp.C	Sea Surface Temp.°C	Wind Gusts m/s	Mean Wind m/s	Direction °T
21.9096	1013.1	29.56	29.25	0.00	0.00	0.0
21.9117	1012.9	29.56	29.00	0.00	0.00	0.0
21.9131	1012.9	29.56	29.00	0.00	0.00	0.0
21.9138	1012.9	29.56	29.00	0.00	0.00	0.0
21.9860	1012.3	29.24	27.25	0.32	0.80	0.0
21.9888	1012.3	29.24	27.25	11.04	0.80	347.3
21.9895	1012.3	29.24	27.25	0.32	0.80	0.0
22.0540	1013.4	29.08	27.00	0.32	0.96	0.0
22.0596	1013.5	29.08	27.25	0.48	0.96	0.0
22.3547	1012.9	28.92	27.00	0.32	0.80	0.0
22.3596	1012.9	28.92	27.00	0.32	0.80	0.0
22.3638	1012.9	28.92	27.00	0.32	1.12	0.0
22.4263	101[illegible]4	28.76	26.75	0.00	0.00	0.0
22.4277	1013.5	28.76	26.75	0.00	0.00	0.0
22.4283	1013.5	28.76	26.75	0.00	0.00	45.0
22.4311	1013.5	28.76	26.75	0.00	0.00	0.0
22.4318	1013.5	28.76	26.75	0.00	0.00	1.4
22.4332	1013.5	28.76	26.75	0.64	0.00	143.4
22.5040	1014.4	28.76	27.25	0.00	0.00	0.0
22.5047	1014.6	28.76	27.50	0.00	0.00	0.0
22.5707	1015.2	28.76	29.00	0.00	0.00	0.0
22.5756	1015.3	28.76	29.25	0.00	0.00	0.0
22.6381	1014.9	28.92	29.00	0.00	0.00	0.0
22.6422	1014.9	28.92	29.00	0.00	0.00	0.0
22.8304	1013.4	29.24	30.00	0.00	0.48	0.0
22.8311	1013.4	29.24	30.00	0.00	6.08	75.9
22.8318	1013.4	29.24	30.00	0.00	0.48	0.0
22.8353	1012.6	29.40	28.75	1.12	2.40	0.0
22.8985	1012.5	29.56	28.00	1.44	2.40	0.0
22.9040	1012.5	29.56	28.00	1.44	1.92	0.0
22.9054	1012.5	29.56	28.25	0.96	1.44	0.0
22.9700	1006.9	29.56	28.25	0.00	0.00	0.0
22.9742	1012.2	29.24	27.50	0.00	0.00	0.0
23.1089	1013.1	29.08	27.00	0.00	0.00	0.0
23.1096	1013.1	29.08	27.00	0.00	1.28	0.0
23.1117	1013.2	29.08	27.00	0.00	0.00	0.0
23.3485	1012.5	29.08	27.25	0.80	1.28	0.0
23.3520	1012.5	29.08	27.25	0.80	1.12	0.0
23.4207	1012.3	28.92	27.25	1.12	1.92	0.0
23.4249	1012.3	28.92	27.25	0.96	1.44	0.0
23.5540	1013.7	28.92	28.25	0.80	1.12	0.0
23.5582	1013.8	28.76	28.25	0.80	1.28	0.0
23.5589	1013.5	28.76	28.25	0.80	1.28	1.4
23.5596	1013.8	28.76	28.25	0.80	1.28	0.0
23.5610	1013.8	28.76	28.50	0.80	1.28	0.0

APPENDIX E: METEOROLOGICAL DATA cont.

Date decimal day	Pressure mb	Air Temp.C	Sea Surface Temp.°C	Wind Gusts m/s	Mean Wind m/s	Direction °T
23.8207	1012.2	29.56	28.50	0.00	0.00	4.2
23.8221	1012.5	29.72	28.50	13.60	0.00	239.1
23.8263	1012.5	29.56	29.00	0.00	0.00	4.2
23.8888	1010.8	29.72	28.50	0.00	0.00	4.2
23.8971	1010.8	29.72	28.50	0.00	0.00	4.2
24.0221	1011.6	29.24	27.00	0.00	0.00	4.2
24.0228	1011.6	29.24	27.00	0.00	0.00	354.4
24.0235	1011.6	29.24	27.00	0.00	0.00	4.2
24.0249	1011.6	28.60	27.00	0.00	0.00	4.2
24.0263	1011.6	29.24	27.00	0.00	0.00	4.2
24.0290	1011.7	29.24	27.00	0.00	0.00	4.2
24.0978	1012.8	29.24	27.00	0.00	0.00	4.2
24.3464	1012.0	28.92	27.00	0.00	0.00	4.2
24.4089	1012.2	28.92	27.00	0.32	0.96	4.2
24.4151	1012.3	28.92	27.25	0.48	1.12	4.2
24.4158	1012.2	28.92	27.25	19.84	1.12	43.6
24.4172	1012.2	28.92	27.00	0.00	0.96	4.2
24.5429	1013.1	28.92	27.50	2.56	3.84	353.0
24.5436	1013.1	28.92	27.50	2.56	3.68	9.8
24.5464	1013.1	28.92	27.50	2.56	3.68	9.8
24.6075	1014.4	28.76	28.25	10.08	3.04	275.6
24.6089	1014.4	28.76	28.25	10.08	7.04	277.0
24.6110	1014.6	28.76	28.25	2.72	3.36	232.0
24.6144	1014.6	28.76	28.25	2.72	3.36	232.0
24.8151	1012.9	29.08	28.25	3.52	4.80	229.2
24.8186	1012.8	29.08	28.25	3.36	4.16	315.0
24.8804	1011.9	29.08	28.00	3.36	4.48	343.1
24.8818	1011.9	29.08	28.00	3.36	4.48	343.1
24.8853	1011.9	29.08	28.00	3.68	4.48	347.3
24.8860	1011.9	29.08	28.00	13.76	4.48	347.3
24.8874	1011.9	29.08	28.00	3.68	4.48	347.3